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ARTICLE I.

A PUBLIC ADDRESS ON THE ADVANCEMENT OF MEDICAL SCIENCE.

(Delivered before the Esculapian Society, at its Semi-Annual Meeting, in Marshall, Ill., May 20th, 1858.)

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Mr. President, Members of the Esculapian Society, Ladies and Gentlemen:

At no period in the history of the human race has there been such efforts made to ameliorate its condition as at the present time. The pages of ancient history contain little but records of oppression, persecution and degradation of the masses, to satisfy the love of power and lust of ambition of pampered monarchs, who deemed no measures too humiliating in their character, or demoralizing in their tendency, to be used in the accomplishment of their selfish purposes. And so it must ever have remained, had not some mighty mind, conscious of its inherent greatness, arose and broke the shackles of ignorance and superstition, and boldly declared the image

of God too noble a thing to be made subservient to the idle dreams and caprices of despotic power.

To mankind this truth came like sunbeams bursting from the cave of night. All felt its healing influence, and not a few hailed it as the morning star of intellectual freedom, and nurtured it with the power of their being. Virtuous principles and lofty aspirations could no longer be kept in bonds, or quieted in dumb servility. There was a mysterious longing in thinking minds to explore the endless fields of thought, and gather food upon which they might be nourished and brought to maturity.

Thoughts of God, the great first cause, and the beauty of the world, of necessity first occupied the attention of original thinkers, and conceptions formed early, found an expression which introduced the creative art. Crude and imperfect as it first appeared, kings threw their protection around its votaries, and opened the public coffers for their benefit. Ideal forms of beauty not attained spurred on to renewed exertion, until lips were made to quiver in marble, eyes to laugh upon canvas, and "forms of matchless symmetry brought forth, which must charm and instruct forever."

But while hosts of admirers were vieing with each other in lauding the various works of art, there were a few of towering genius and wondrous thought, who labored incessantly to acquaint themselves with the "cunningest part of excelling nature." With no truths by others gained, or facts established, it required unswerving stability, untiring perseverance, and an imperishable desire to relieve human ills, to enable these explorers in a newly-opened philanthropic field, to relinquish the claim to fame, honor and wealth, which their natural endowments would have demanded for them in the artist's ranks, and unsolicited and unaided, spend a life of toil, endeavoring to establish means by which the enemies of health may be successfully met and driven back from the threshold, that otherwise must supplant the pleasures of home with sorrow and tears.

As we might expect, from the circumstances by which they were surrounded, and the multiplicity of disadvantages under

which they labored, facts accumulated but slowly, and for a long period bore but a small proportion to the number of erroneous views entertained with regard to the origin and treatment of disease. But, few as they were, enough were elicited to satisfy earnest inquirers after truth, that close research and observation, with careful experiments, would establish a science calculated to soften the pangs of disease and prolong life.

The people, accustomed to see the pestilence nearly depopulate portions of the country and leave it an abandoned waste, that had witnessed the plague's unmolested march as it swept away the flower of their youth, and left desolation and distress in its track, were ready to shower honors upon any one who should devise means by which to turn away the blighting hand that so often stole into the family circle and sapped the sweets of social life.

As soon as the public eye was turned upon the subject, a crafty priesthood, ever eager for notoriety where fame cannot be reached, whose only knowledge of anatomy and physiology consisted in a belief that man was fearfully and wonderfully made, commenced anew their work, and incessantly toiled to convince a credulous and grossly ignorant populace that all diseases were only manifestations of God's wrath, and offered for their cure remedies which could only be found in the wildest dreams of fancy.

While others, afraid of being left in the rear, hastily bundled together a few facts, combined with them presumptuous assertions, and set the world agog with ideas of atoms and pores, elements and ethers, and mystified and enshrouded the little known, until medicine appeared inextricably mixed up with priestcraft and intolerable superstition.

The time at length arrived when this night of ignorance could last no longer. There came upon the stage a man of intellect almost infinite. With "perception vast and reason deep," he observed the working of nature in her different abodes, and saw contending forces destroy her brightest ornaments, and crumble her choicest gems. United and concentrated efforts reversed the work, and brought out her valued and beautiful productions.

He determined to apply the prompting thus received to the establishment of a science which should embrace the laws of health and disease. To consumate this purpose, it became necessary to collect the varied opinions of his antecedents and cotemporaries in the art, when, by close research and comparison, he formed his conclusions, expunged the fallacious notion of supernatural causes operating upon the body, overthrowed the doctrines of priestcraft, and established upon the immutable pillars of truth the science which has often dried the orphan's tears, stilled the widow's cry, and poured the oil of gladness around the hearthstone of discontent.

It was no great original discovery of this physician of Cos in medical science that wrought such a marvelous result; but gathering in one body the opinions of others, and applying to them the inductive mode of reasoning, was the great work which sealed his name for immortality.

A history of this noblest science, however brief, cannot be given in the short time alloted us. We first view it as a narrow stream, almost inaccessible on the heights of antiquity, and as it rolls forward, is at times almost lost among cascades and shadowy coverts; but in time it reaches the plains of historic truth, and flows onward, a majestic river, securely embanked by written documents and recorded facts.

I am aware that the idea is frequently entertained, especially among the junior members of the profession, that all that is valuable in medicine has originated in the nineteenth century, which is far from being true. In the writings of Galen and Hippocrates, though their ideas were crude and imperfect, we find guiding principles that must ever remain pillars of wisdom, which the waves of charlatanry cannot weaken, the syrian winds of quackery cannot break down, and whose strength trembles only at the tread of omnipotence.

A constant desire for change is characteristic of the present day, but changes have not in every instance benefited mankind or advanced the profession. That the science of medicine is now advancing more rapidly than at any former period I have no doubt. This is accounted for by the more general recognition of the old axiom, that in union there is strength.

The genius of our science is such, that with the increased aid of collateral sciences it is impossible for us to remain satisfied with our present attainments. Our aim is too high, the objects to be accomplished too noble, I may say sacred, in their character to permit us to ever flag or unproperly apply our time until disease is shorn of its terrors, and those maladies which have long resisted our attempts to cure, shall come crouching to our feet. This work can never be fully completed without unremitting toil and unity of action. Mind, no less than matter, gains new form and force by consociation. It is but recently that the masses have heeded the lessons of unintelligent creation. The glistening dewdrops that so lightly fall and quickly disappear, when gathered, make the soundless ocean that moves with majestic mien before the tempest car, and glories in its strength.

So with thought. Each active mind may generate sound practical ideas, that, to remain only within the author's province, would be like a well-shaped stone for the builder's use, useless alone; but when put in its proper place, when linked with the reasoning of other minds, may change the course of empires, or, perhaps, open up a science that otherwise might have slumbered for ages.

The desire of rousing the energies of skilful men, and increasing the number of offerings for the public good, of opening to its full width the channel which leads to the great foundation of benevolence, alone led to the formation of this and kindred associations, and the benefits that accrue, not only to the members composing them, but to the recipients of their care, are incalculable. In these are found the ablest and most valued talent in the profession. The almost constant desire of the young for innovation is here checked by the aged, and ideas of having mastered the science vanish while listening to the counsel of those who have spent long lives in scanning the effects of remedies in their different combinations, under the various circumstances that modify their action, and who have witnessed the guarded and insiduous, no less than the demanding attack of disease as it searched for the secret spring of life. The aged are here stimulated by the ardor of the young, and are cheered

on by seeing them bring rich offerings from fields which the sage teachings of time had not disclosed. Cases of peculiar interest, with the success attending a certain course of treatment, that never would appear in the journals of the day, are here given in detail, and whatever of value is in them is preserved for the public good. That professional jealousy which frequently proves an impassable barrier between worthy men is here subdued, and the withered hand of friendship regains its form and usefulness. Wavering confidence in a brother's fidelity is here lost, by witnessing his devotion to correct principles, and instead of passing him with a suspicious, silent nod, we pay respect to his claims, and meet him as "friend meeteth friend."

No class of men so much as ours are tempted to question the ability and doubt the honesty of their co-workers. We are almost daily told of somebody that is made a cripple for life by injudicious treatment, of some patient that was killed by too much medicine, or, of some other that died for want of more, which, with the wonderful things our informants "know of," are calculated to lead us to believe that some doctors are not any better than they should be. And was not this officious impudence of talebearing confined exclusively to the unrespected members of society, it would do more harm. It is due not only to ourselves, but to our patients, to whom they are ever ready to offer their sickly tattle and advice, that these meddlers in such matters, these mildewed specimens of humanity, should receive such rebuke as their meanness demands.

It is only by association that we gain a correct estimate of each other's merits, and he who refuses measurement by this standard, can hardly presume to stand above suspicion. If at times we differ upon certain points, there is no place where truth is so likely to be elicited as here, and however warm and animated the discussions may be, new ideas are sure to spring out of them, and instead of arousing a spirit of animosity between the contestants, there springs up a feeling of warmer friendship and increased respect. It is here that the dormant energies are called into action, and sleeping indolence is entombed by the active engagement of the nobler powers of the mind.

By liberal contributions from members situated in different localities, that have subjected disease to different modes of treatment, and carefully noted the result, medical societies advance rapidly the cause for which they were instituted, and will eventually become the great reservoir of thought, in which must spring up the "balm for the healing of the nations."

Associations for the purpose of advancing medical science are now becoming deservedly popular, and receive as they merit the consideration of those who are desirous of improving themselves, or advancing the best interests of the community in which they live. There are those engaged in medicine, however, that can receive no benefit from association. And we will here say to you who have the whole science embodied in your breast, but have no means by which we can be made cognizant of the same, with no desire of increasing your stock of knowledge, better not spend your time in meetings like this. We can be of no service to you, and I fear that we, like your patients, will seldom be benefited by your presence. But to you who are not satisfied by treading only in paths worn down by your fathers, who are desirous of quieting the maelstrom of unhappiness and completing the temple to which all may look and live, we say, "Come, go with us, and we will do you good." We ask you to unite with us, not merely to increase our members, but as co-laborers. Spending none of your time in idle retreats, but subjecting yourselves to constant attrition of mind, that our usefulness may be increased, and we assure you your efforts shall not go unrewarded. We ask you to study well the judicious use of long known remedies rather than the list of doubtful, untested substitutes.

Every "ignis fatuus" that appears in the medical horizon should not be hunted down by the regular practitioner. To be induced to leave established landmarks in the profession by the vaunting promises that cluster around new theories and speculative practice, would be selling a birthright in standard medicine for an equivalent of less value than Esau's pottage.

System after system of quackery has originated in the idle dreams of some brainless mountebank, and each, like Jonah's

gourd, for a time has grown, and, like it, died. Their scions are always transplanted in shallow ground, which, for a time, yields them a support, but they ultimately droop, die, disappear, and are forgotten.

We gain an instructive lesson from the effects which the simoons of empiricism have produced in the last few years. Willing martyrs have appeared to test the efficacy of every remedy clothed with the charm of mystery. Some have been swathed in cold sheets, endeavoring to freeze out the intermeddlers of health, while others have made fruitless attempts to accomplish the same by being boiled. In common with other subjects of quackery, after a few trials, they have generally died, which, to themselves, their families and friends, was the kindest act they could perform. We clearly see that ignorance is the great hot-bed in which these pests find an origin, and is their only source of nourishment. When this shall be dispelled, when the masses manifest the same interest in medicine as politics, the various *isms* and disordered growths, more to be dreaded than Banquo's ghost, that are vainly searching for a resting place, shall collapse and disappear like the "baseless fabric of a vision."

As conservators of the public weal, we are bound by every principle of humanity not only to warn the public against imposition from outsiders, but to guard against the possibility of their finding unsafe practitioners in the regular profession. This is a matter that we have too long entrusted to the public schools. It is time that we should take a stand point and demand a searching investigation into the qualifications of every man with whom we hold fellowship.

Our generous deportment and universal adherence to truth, have led the masses to believe that none but honest men would wear the garb of our profession. Hence it is that the indigenous, nondescript productions, called eclectics and Indian doctors, have found employment until their history is written in our graveyards, and in vacant seats in the family circle. We should not be anxious to introduce into practice any man because he appends to his name M. D. in flaming characters.

Acquaintance may convince us that it is necessary to consider them the initials of miserable deception, to describe his character as a physician.

Many of our schools vie with each other in the rapidity of making doctors, and have long struggled, "Jacob like," to see who could confer degrees upon the aspirant with the least fitness to discharge the various duties incumbent upon the practitioner of medicine. No one thing has done more to foster empiricism than this. But one school in the West has made an effort to come up to the recommendations of the American Medical Association, and that deprived of clinical advantages, however brilliant and numerous may be its corps of professors, must ever fail of accomplishing its mission. Private practitioners as a body must demand a higher grade of medical education. Then, and not till then, will our schools increase their usefulness.

It is useless for us to look along the Atlantic coast to guide us through the intricate windings of our profession; there peers up in the Northwest some modest stars that are much better guides through the fogs and mists of the Wabash Valley than any which have yet appeared. We have men no less noted for their superior attainments in medicine than our western country for its natural advantages; men, upon whom nature has bestowed her choicest gifts, to whom science looks for additional strength. By their fine discrimination and accurate reasoning, our State is furnished with a school above the common grade, and fully up to our demands, but not our wants. The fault is our own that its character is not more elevated.

We are leagued with the public teachers in preparing men with whom we are bound to strike hands as brothers to labor in one common cause, and should not expect them to make skilful men unless we furnish them with well trained, industrious students.

We should be careful that none enter our offices to pursue the study of medicine without previous mental discipline, without literary and scientific acquirements sufficient for a commanding position in society, and ask our schools to confer

degrees only on men of intelligence, well skilled in the various branches that aid in tracing disease to its origin, or assist in its removal. Unity of sentiment and action is here only necessary to the speedy accomplishment of a radical change in the profession, and nothing is more desirable, or could be productive of better results.

But elevate the standard of medicine, and it becomes robed with additional lustre, its supporters gain additional confidence from the subjects of their care, and the dew of its blessings shall be cheering to the fainting hopes of health, as gentle rain to drooping flowers. No former period has promised so bright a future as the present. Association, as an element of success, is not only being felt and acknowledged, but the principle is being put into practice. Its teachings are blotting out the errors, and dispelling the shadows which have surrounded us, and are building on life's most troubled coast a lighthouse that shall prove an unerring guide to the welcome shores of health.

As our aim is higher than that of other callings in life, let us be more devoted, industrious and persevering. The zeal of the true physician glows in the crucible of adversity, no less than when rocked in the golden chair of plenty. The sacrifice which we are required to make to fully do our duty, can never be prompted by the grovelling whispers of avarice. 'Tis not for wealth that we would leave the pleasures of a quiet home and spend our time where tales of sorrow only are told. 'Tis not for this that we would spend sleepless nights where the cry of suffering wounds deep the finer feelings of the heart. 'Tis not for this that midnight finds us visiting the unfortunate poor, where deadly vapors load the air, and death stalks forth unmasked. 'Tis not because we know the name of the good physician is engraven upon the tablets of memory, and shall live on when the names of martial heroes shall be buried deep in forgetfulness. But it is a knowledge of performing the noblest work on earth, by bearing away many of the sorrows of life, and replacing them with the benison of gladness, and the hope of finally bringing under subjection all diseases which mar the happiness of the human family. This is the buoying hope of

of our profession; and no class more than ours will rejoice to see the day when the sounds of suffering shall fall upon the air no more, when the blush of health shall mantle every cheek, and the whole pathology of life, from the days of early innocence to ripe old age, shall be thickly strewed with the rose leaves of pleasure and peace.

ARTICLE II.

POWER OF "ACCOMMODATION" IN THE HUMAN EYE; ITS PHYSIOLOGY AND PATHOLOGY.

BY E. L. HOLMES, M. D.

Scarcely any question in the physiology of vision has offered greater difficulties in its solution, than that relating to the adjustment of the eye to different distances. Anatomists have dissected the eye and studied its minutest textures, and physiologists have invented theories by which to explain this wonderful and beautiful endowment. But with all these dissections and all their theories, they have till quite recently *established* scarcely one fact.

Reasoning upon the general principles of optics, and comparing the eye with optical instruments, we may undoubtedly state what alterations *may* take place in the eye, to account for variations in its focal distance. There is certainly nothing improbable in the theory, that this may be produced—1st, by increasing or diminishing the antero-posterior diameter of the crystaline lens; 2d, by increasing or diminishing the distance between the retina and the lens; or, 3d, by the united effects of both these changes. But what actually does take place is a question which has long interested the physiologist, and which will probably long be discussed before it is wholly decided. This difficulty arises, in part, from the delicate and complex structure of the eye itself; the various portions of which are so easily changed in relative position by examination, that scarcely any two anatomists agree in their delineations of the eye. We can convince ourselves of this by reading the different descriptions and comparing the form and position of different portions

of the organ, as given in the numerous anatomical works of the present age.

The eye has been carefully divided and studied when frozen, when coagulated by certain chemical substances, and, when prepared, by being first divided in a dried state, and then allowed to resume as near as possible its normal shape by the absorption of water. By these various modes of investigation, much progress has been made in the minute anatomy of the eye. Still, in studying the function of "accommodation" to different distances, most observers have been too prone to theorize upon the use of each particular portion of the eye, without first having learned the changes which actually take place within it, some of which we shall show can be made visible to the observer during the act of adjustment.

The mode of investigation adopted by Cramer of Berlin, Donders of Utrecht, and Helmholz of Konigsberg, is more satisfactory than others, since it clearly *demonstrates* some of the changes which were only supposed by former physiologists to occur in the eye. The experiments of these physiologists were based upon the fact that the images of an object produced by convex or concave mirrors, stationed *at a given distance* from the object, varied in size according to the degree of convexity or concavity of the mirrors.

Helmholz, by a long series of experiments with very delicate and expensive apparatus, was not only able to measure the length of the images of a particular object formed by the cornea, the anterior convex and posterior concave surfaces of the lens, but also to calculate the differences in degree of convexity which appeared in the lens in different states of the age. He was also able to measure changes in the relative distances between the cornea, anterior and posterior surface of the lens.

This instrument, which has been called the ophthalmometer, has been used by the most celebrated experimental physiologists in obtaining the measurements of the eye, which are now considered as most accurate. By means of these measurements, and the formulæ used by Brewster, Krause and other opticians in calculating the refracting power and curves of the different media of the eye, Helmholz and others have been enabled, as I

just stated, to establish certain facts regarding the crystaline lens, which have a very important bearing on the question before us.

The movements of the iris, at the moment the focus of the eye is adjusted for a particular object, had long before been noticed.

Whenever the eye is fixed upon a near object, the following variations are observed:

1*st*. The pupil contracts.

2*d*. The pupilary edge of iris is thrown forward.

3*d*. The outer portion of the iris recedes.

4*th*. The anterior convex surface of the lens is rendered more convex, and at the same time is thrown forward.

5*th*. The convexity of the posterior surface of the lens is but little increased, and is scarcely changed in position.

We thus see that the refractive power of the lens is increased.

The contour of the cornea is not affected by the ordinary acts of accommodation, since it is shown by the apparatus of Helmholz, that the image of an object, formed upon its surface, unlike those formed upon the anterior and posterior surfaces of the lens, suffers no modification whatever.

In turning the eye from a near to a remote object, the reverse phenomena are observed; that is, the pupil dilates—the pupilary margin of the iris recedes, while its external portion slightly advances, and the antero-posterior diameter of the lens, as also its convexity, is diminished.

These facts are now received by many of the best authorities as fully established, and they are certainly facts of great interest to the student of science. Although many physiologists are united in opinion as regards the facts, they are by no means disposed to agree concerning the manner in which the changes, above mentioned, are produced, and consequently several theories have been proposed to account for them. Perhaps that of H. Muller, as stated in the *Archiv. fur Ophthalmogie*, vol. iii., is the theory most consistent with the anatomy of the anterior portion of the eye. Prof. Arlt, however, after most careful dissection of more than 300 eyes, prepared in various ways, delineates the anterior portions of the eye somewhat differently

from Muller, as also from Helmholz and Brucke, and differs from these physiologists in explaining the manner in which adjustment is produced.

It is well known, that Brucke and Bowman proved that the ciliary muscle, which lies outside the vitreous humors, between the anterior limits of the retina and the union of the selerotica with the cornea, is composed of two series of muscular fibres—the radiating, which pass from the anterior termination of the selerotica towards the ora serata of the retina, and the annular fibres, which pass in a circle parallel to the circumference of the cornea, forming a kind of sphincter, similar to the corresponding fibres of the iris.

In addition to these muscular fibres, there are others, composing the zonule of Zinn, which appears to be a continuation of the retina, modified however in structure. The function of this organ has long been a subject of discussion among physiologists. It is now regarded by many of them as the antagonist of the ciliary muscle.

Muller explains the action of these fibres in the adjustment to near objects as follows:

1*st*. The annular fibres, in contracting, exert pressure upon the periphery of the lens, which increases the length of its antero-posterior diameter—that is, makes it thicker and more convex.

2*d*. The radial or longitudinal fibres, in contracting, tend to draw the choroid coat, and, consequently, the vitreous humor, forward, thus preventing the posterior portion of the lens from receding at the moment the diameter of the lens is increased as just described.

3*d*. The pressure of the external portion of the iris upon the corresponding portion of the capsule of the lens, tends to increase its convexity anteriorly.

4*th*. The contraction of the ciliary muscle produces a relaxation of the zonule of Zinn, which relaxation also favors an increase in the diameter of the lens.

5*th*. The contraction of the zonule, supposed to occur while the ciliary muscle is in a state of relaxation, draws literally upon the capsule, thus rendering the lens less thin, and, consequently, less powerful.

The changes, which have been proved to exist in the lens, and the situation of the muscular fibres, are such, that they *seem* to bear the relation to each other of cause and effect. This theory derives support from facts in comparative anatomy. It is stated by several authorities that these muscles are developed to a wonderful degree in those birds which are remarkable for their great power of accommodation. The lens in such birds is also of less consistency than in many other animals, which renders modifications in its form more readily effected.

The contraction of the pupil, during the act of accommodating the focus of the eye to near objects, is probably of less importance than the other phenomena we have noticed, since we know that the changes, produced by ordinary variations in the amount of light entering the eye, do not modify the power of adjustment. A still stronger proof, that the adjustment of the focus may take place independent of the action of the iris, is found in cases in which paralysis of the iris and the loss of adjusting power are observed in the same eye, as reported by Graefe. After treatment, in one case the function of accommodation was restored, while the paralysis of the iris remained; in another case, the paralysis was cured without any effect upon the loss of accommodation, showing that the two functions to a certain extent, at least, are independent of each other. Even without the good result of treatment, such cases would afford no argument against our supposition, since the same cause, which produced the paralysis of the iris, operating upon nerves in so close proximity, might also produce the paralysis of the ciliary muscle and the zonule.

DesMarais reports a case of mydriasis following a blow near the eye, in which the power of adaptation remained perfectly normal.

It has been supposed that the recti and obliqui muscles of the eye, had also some influence in the adjustment of focal distance. An argument for this opinion is thought to be found upon the fact that very often, after the operation for strabismus, vision is improved. But that accommodation may be entirely independent of these muscles, is proved by a case reported by Graefe, in which all twelve muscles of the eyes were completely

paralyzed, and still the power of adjustment was perfectly intact. It is true, *sight* is improved by the operation for strabismus, but this is probably independent of any modification in the function we are now considering. We must remember that an eye affected with strabismus often becomes amblyopic in consequence of disease, the patient finding, by experience, that he is unable to see distinctly with the eccentric portion of the retina. The organs of adjustment become also weakened from disease. Now, an operation, by restoring the eye to its normal position, also restores the central point of the retina in harmony with the other eye, whereby this portion of the nerve and also the muscles of adjustment, by performing their normal function, regain their lost power. That a muscle of the eye in disease, by undue pressure upon the globe, *may* affect the focal distance of the eye, is undoubtedly true, but whether in health this is actually the case, is scarcely probable. There is more reason to believe that the orbicularis *may* assist the eye in changing its focal distance, since the near-sighted involuntarily contract this muscle as much as possible in viewing distant objects. Because a muscle *may* possibly perform a certain act in certain abnormal conditions of muscles near it, it does not follow that it does it habitually in health any more than that the muscles of the *arm* assist the eye in "accommodation," because a very near-sighted person, by pressing gently upon the eye with his finger, *may* render the organ somewhat more far-sighted.

On the same principle, the argument, founded upon the fact that a patient occasionally preserves, to a considerable extent, the power of adaptation, even after the double operation for cataract by extraction, is really of little weight; since such a case is quite rare, and only proves that *some* persons can employ the other muscles of the eye to assist it in adjusting its focus, just as we *occasionally* find an individual who has a remarkable power over the muscles of the ear (auricle) and scalp.

In the present state of anatomy and physiology of the eye, therefore, we may regard the following as the most essential points in the theory of accommodation:

1*st.* The focus is adapted to near objects by an increase in the thickness and convexity of the lens, and by a slight motion

of the lens from the retina; to distant objects, by a diminution in the thickness and convexity of the lens, and a slight motion of the lens *towards* the retina.

2*d*. The former of these changes are produced by the ciliary muscle, and the latter by the zonule of Zinn.

The nerves which supply the ciliary muscle and the zonule of Zinn have not as yet been satisfactorily demonstrated. They, however, like the muscular fibres themselves, are probably entirely independent of the iris and its nerves.

Like every organized structure, the portions of the eye which we have thus far considered are liable to disease. The pathology of these diseases, as well as the physiology of the function itself, has been enveloped in obscurity. But since it has been well understood that "accommodation" depends principally upon a particular series of muscular fibres, an explanation of numerous morbid conditions is readily found.

The most frequent example of abnormal condition of the muscles of "adaptation" is offered in very many cases of myopia and presbiopia, or far and near sightedness, although, in a vast number of instances, we can find no cause of these affections, except in some idiosyncrasy in the individual, in modifications of the consistency of the lens, or in changes produced by advancing age; yet there are thousands of people who have rendered themselves far or near sighted by an injudicious use of their eyes.

The ciliary fibres, as also those of the zonule, are, to a certain extent, developed in proportion to the exercise to which they are subjected. Hence, we see that, as a general rule, those persons who employ their sight equally upon near and distant objects, usually suffer little from difficulties of adjustment. On the other hand, the young who are confined within the walls of the schoolroom, who spend much time over books, and who rarely look beyond the narrow lanes of the city, by constant exercise of the ciliary muscle have so little demand upon the zonule that it at last loses much of its power. The consequence of this is, that the lens is so constantly confined in a position adapted to near objects, that efforts to look at a distance are followed with pain. Regarding the ciliary muscle as an analogue

of the flexor muscles, and the zonule of the extensors, we can compare the condition of the eye just described to that of an arm which has been retained in a state of flexion, efforts to extend which are accompanied with discomfort.

The sailor, who spends so many hours in the open air, looking at distant objects, has little exercise for the ciliary muscle, while the zonule is ever in a state of action. This condition may be compared to that of an arm kept long extended. Efforts to flex it are painful.

The eyes often become myopic when affected with incipient amaurosis. To obtain as distinct an image of an object as possible, a greater quantity of light than usual must enter the pupil; to effect this, the object must be brought near the eye, and the focus of the lens is adjusted accordingly. In time, the habit of placing the eye so near an object is confirmed, and the ciliary muscle becomes abnormally developed. Great care is necessary in the selection of glasses for patients who have partially lost the power of accommodation, otherwise they aggravate the evil for which they are adopted. Under ordinary circumstances, a convex glass, more powerful than is required, renders the eye more *presbiopic*, and a too powerful concave glass renders it more *myopic*.

Besides the common affections of far and near sightedness, there are several others which, although not so frequent, are by no means rare.

I have lately had occasion to examine two individuals whose eyes, to all appearances, were perfect. They had the power of adjusting, with great facility, the foci from a near and minute object to a distant one, so that they could read the finest print and distinguish small objects at a very great distance off. And yet these individuals were wholly unable to follow their vocations, which required their eyes constantly fixed upon minute objects. After reading a few moments the sight grew dim, accompanied with pain over the brow and in the globe itself. The affection in each of these cases is probably one implicating the ciliary muscle. For some reason this muscle is unable to support a continued state of traction and soon tires. This state of the eye has been called asthenopia, and is a very common disease in the

weak and debilitated, who are obliged to employ their eyes long at a time upon minute objects with insufficient light. Such cases are usually complicated with slight congestion of the retina and choroid. Cases like the two which I have just cited, without complication, are less frequent.

Slight blows on or near the eye, or injuries of the fifth pair of nerves, sometimes produce less of the power of accommodation. A patient with such an injury may be able to see an object placed at a given distance, but has no power to distinguish objects with accuracy at a greater or less distance. Graefe reports several cases in which loss of accommodation was caused by very slight injuries.

A singular condition of the eye is occasionally found in which a person who, within certain limits, is by no means near-sighted, is yet unable to distinguish distant objects. For instance, a patient may be able to read the finest print at the distance of a couple of feet, and ordinary type at the distance of four or five feet, and not be able to distinguish the sashes of a window at the distance of fifty feet. A near-sighted person who could not read the same print except by bringing it much nearer the eye, could much more easily distinguish the different portions of the window. A wholly satisfactory explanation of this peculiarity has not yet been offered, although the muscles of adaptation are probably implicated.

I am well aware that I have omitted several questions of interest connected with this subject, but they are of minor importance, and can scarcely strengthen the arguments for or against the principles I have discussed.

ARTICLE III.

RESECTION OF THE ELBOW JOINT AND ULNA. RECOVERY, WITH A USEFUL MEMBER.

BY J. W. FREER, M.D., PROF. OF ANATOMY IN RUSH MEDICAL COLLEGE, ETC., ETC.

History.—Zachariah B., aged 17 years, came under my observation, for the first time, in October, 1857, with extensive disease of the elbow joint and ulna of the right side. His medical attendant informed me that six months prior to this, the patient was seized with what appeared like inflammatory rheumatism in the affected joint. At the expiration of five or six weeks he became aware of the true nature of the case by the appearance of an abscess communicating with the articulation. On exploring which, it was found that the articular cartilages were already partially destroyed by ulceration, and the contiguous bones softened and carious. Subsequently the entire ulna became involved in inflammation, eventually leading to necrosis.

At the time specified above, when the patient first came under my care, his general condition was as follows: emaciation, diarrhœa, hectic fever, night sweats, loss of appetite, etc.

Condition of the limb.—The arm in semi-flexed position, and incapable of movement; elbow joint much enlarged; on the ulnar side of the joint three sinuses, leading to the articular cavity, one conveniently situated for exploration of the joint, through which it was ascertained that the articular cartilages were nearly, if not altogether, destroyed; the contiguous bones softened and carious; two or three inches below the joint a sinus, leading to the necrosed ulna; at the lower extremity of the ulna a large opening, through which the head of the bone protruded, it having been severed from its ligamentous and articular attachments by the progress of the malady. The radius seemed unaffected by the disease.

In consultation with my friends, Drs. Hollister, Hoffman and Nelson, an operation for resection of the diseased parts was considered advisable, which was performed in the following manner:

Operation.—The patient having been placed fully under the influence of ether, an incision was made the whole length of the inner border of the ulna, and extending three inches above the elbow joint. Another at right angle with the former, extending from one condyle to the other. The flaps included in these incisions being dissected up, the posterior surfaces of the joint and ulna were freely exposed; next the triceps muscle and the ligamentous connections of the joint were severed, liberating and bringing into view the diseased surfaces of the articulation. (Special care was taken to avoid injury of the ulna nerve.) Then flexing the forearm, in order to render the humerus prominent, the dissection was carried up the anterior surface to the required extent, and the diseased portion removed with the saw, care being taken to preserve the soft tissues by the interposition of a piece of pasteboard. The point selected for dividing the bone was situated half an inch above the upper edge of the olecrenal fossa.

Then, proceeding to the inferior constituents of the joint, the head of the radius was removed by means of the bone scissors; after which, the ulna was enucleated entire, great care being observed to preserve the periosteum with its patches of new bone developed irregularly here and there. Two or three small vessels required ligation. The incisions were closed with interrupted suture; the limb placed in a flexed position, secured by an angular splint of pasteboard; a full dose of morphine ordered, and the patient placed in bed.

Morbid anatomy of the parts.—The articular surface of the humerus completely denuded of cartilage, with considerable destruction of the corresponding bone; the cartilaginous surface of the head of the radius in a state of progressive ulceration; the sigmoid notch of the ulna denuded of cartilage; the bone in a carious condition; the shaft of the ulna necrosed throughout its length, which was previously involved in irregular patches of provisional bone, not sufficiently firm to offer any obstacle to the removal of the sequestrum.

The patient remained under the care of the attending physician of the almshouse (Dr. Nelson), who informed me that he recovered rapidly and without reverses.

At the present time, nine months after the operation, the limb is in the following condition: the elbow firmly anchylosed; the original situation of the ulna nearly occupied with new bone; the hand and fingers useful, and capable of performing all of the natural movements, but with less vigor than is desirable, owing, undoubtedly, to the detachment of the origin of the long flexors and extensors, and the long period of disuse of the member.

Remarks.—The propriety of resection of the elbow joint, in suitable cases, is so well established that its utility is unquestionable. Happily for mankind conservative surgery is "the order of the day." But until recently, the practicability of removing the elbow joint, with one or the other of the bones of the forearm, has been doubted, at least, with any prospect of restoring the member to usefulness.

In refutation of this doubt, several illustrative cases have been recently presented to the profession. Two by Prof. Carnochan, wherein in one case he removed the ulna, in the other the radius, both resulting in useful members. Another by Prof. Brainard, in which the ulna was removed with the constituents of the elbow joint, resulting in an unusual degree of usefulness of the member. And it gives me much pleasure that I am able to add still another case in support of the utility and practicability of this truly conservative operation.

The present tendency of the professional mind is such, that at no remote period, resection of a certain class of diseased joints will probably completely substitute the original destructive method by amputation. We have already gained sufficient experience to establish the comparative safety in the removal of even the large articulations, such as the knee, hip joint, etc.; and it is desirable that these inquiries should be extended, until the operation, as well as the diseases amenable to its benefits, are fully systematized.

PROFESSORS DAVIS AND BYFORD,—It is due to *you*, as publishers of the "Journal," to say that, although not at this time a subscriber to your excellent publication, I am a reader of it. My friend, Dr. A. W. Adair, and I take three partnership journals—I receiving the *American* and *Medical News*, and he yours—and we exchange. On motion of Dr. Green, one of the members of the graduating class last winter, it was unanimously voted that I should furnish you with the accompanying paper for publication. This duty I now comply with.

Respectfully yours, etc.,

WM. MATTHEWS.

Sept., 1858.

ARTICLE IV.

DIABETES.

(A Paper read before the Hendricks County Medical Society, at its July meeting.)

BY W. MATTHEWS, M.D., OF NICHOLSONVILLE, PUTNAM CO., IND.

MR. PRESIDENT AND GENTLEMEN OF THE SOCIETY,—At the last meeting of this society I was requested to prepare a paper to be read at this time. Not feeling at liberty to disregard the request thus kindly extended to me, I have selected for a subject that ancient, yet very imperfectly understood, disease known as diabetes.

Diabetes is a disease of very considerable interest to the medical practitioner. Being a very rare affection, this circumstance of itself renders a cure of it a matter of interest. In addition to its rarity, its illy defined pathology, and almost uniform fatality, give additional gravity to the subject. That the disease is a rare one every experienced physician must admit. A tolerably full practice of nearly sixteen years has furnished me with but a single well-marked case; and I have conversed with a number of practitioners of considerable experience, who never saw an instance of the disease. And, indeed, our authors bear evidence to the same general purport, though it is to be remarked that some of the older writers speak of the disease as somewhat common—a circumstance to which I shall advert presently.

As to the pathology of the affection I would only remark in

this place, that it is a matter quite unsettled; and agreeable to the best late writers, very few, if any, cases of the disease ever get entirely well.

Now, as I propose speaking of the disease somewhat in detail, let us in the first place narrate its most prominent symptoms. It was known to the ancient Roman physicians. The name appears to have been derived from two Greek words, signifying "to pass through"—from the great quantity of aqueous fluid, I suppose, which passes through the kidneys and bladder. "Diabetes," says Eberle, who is in general a correct describer of disease, "usually makes its appearance in a very gradual manner, although, in some instances, it comes on suddenly, with slight chills and febrile commotions. When its invasion is gradual, it is generally attended from the first with various indications of a disordered condition of the digestive organs—such as variable appetite, acid eructations, occasional nausea and vomiting. The quantity of urine discharged in this affection," he continues, "is almost always extremely great, and in some instances truly enormous. I have seen," says he, "two cases, in which from twelve to fifteen pints of urine were discharged in the course of twenty-four hours, for several weeks. The urine in this disease," says the same author, "is generally of a pale straw color, approaching sometimes to a shade of green. The urine gives off a faint odor, resembling somewhat that of fresh animal broth, and its taste is sweet. It contains very little or no urea, and it passes readily into the vinous fermentation." I continue to quote from the same authority. "The constitutional symptoms which attend this disease are—urgent thirst; craving appetite; dry skin; a distressing sense of weight and uneasiness in the stomach after taking food; dry and parched mouth; white, foul, sometimes clean, and red tongue; wasting of the flesh; a feeling of languor and aversion to exercise; debility; pain and weakness in the loins; irregular action of the bowels, being most commonly costive," etc., etc.

With this sketch of the symptoms of diabetes, I pass to the consideration of its causes and pathology, only remarking that the most prominent symptoms are dry tongue, dry mouth,

rapid emaciation, and the discharge of an inordinate quantity of urine, more or less loaded with saccharine matter. To constitute a case of genuine diabetes, the urine must contain saccharine substances; and I shall, therefore, in the present paper, confine my remarks to saccharine diabetes.

"We know but little about the causes of diabetes," says Dr. Watson; and apparently to avoid the investigation, so fruitless to all his predecessors, he adds, that, in "those afflicted with it, a predisposition to it probably existed." But in what this predisposition consists we are left to conjecture. If Dr. Watson is correct in his notion that the disease is frequently hereditary, and he mentions several cases which appear to support such a view, I would ask, in what does the predisposition consist? Does the hereditary vice consist in primary organic or functional disorder of the organs of assimilation in, to use other words, hereditary indigestion? "It occasionally seems to be," says he, "produced at once, by the operation of some exciting cause, such as exposure of the body to cold," etc. Now the question is, how does cold produce diabetes? "Distress and anxiety of mind are held," says the same authority—and justly, he thinks—"to be among the predisposing causes." Distress and anxiety of mind, if we admit them to be predisposing causes, must have their primary seat in the brain; and "cold," too, not unfrequently gives rise to nervous affections.

Thus may not the disease in question properly be referred to the nervous system as its primary seat? It is well known that neurotic disorders, of all others, are most often transmissible from generation to generation. Apoplexy, epilepsy, hysteria and chorea, are familiar instances of the truth of this assertion.

But there are better grounds than those just stated for referring the primary seat of this disorder to the brain, or rather nervous system. When we turn back to the older writers upon the subject under consideration, they tell us that diabetes has its seat in the kidneys; and to fortify their position, we are told by them that autopsic inspection bears testimony to this view; for, say they, while it very often happens that no traces of disease can be found in the whole digestive apparatus, the kidneys are always more or less altered from their healthy

appearance. More recent and, as is presumed, better informed pathologists, however, while they admit the fact that the kidneys, during the progress of diabetes, undergo very manifest structural alterations, they contend that those alterations are solely due to excess of function, and not to primary disease—that is, that the kidneys have simply been overworked, and, as a consequence, are more or less hypertrophied. And such, no doubt, is the truth of the matter. But it is to be remarked, that while the more recent writers succeed in destroying the kidney theory of diabetes, they have failed to establish a more rational solution of the difficulty. They tell us, to be sure, that the vice is to be looked for as a simple functional difficulty in the chylopoietic organs; that the fault lies in some obscure variation in the assimilative process. But dissection fails to exhibit any material changes in any of the structures immediately concerned in eliminating the food; and we are again left to uncertain conjecture.

There is, to a certain extent, at least, a solecism involved in speaking of simple functional disease. It is almost equivalent to talking about a disease without a cause. A watch may run continuously but irregularly; but that irregularity, it must be confessed, depends upon the variable application of certain physical laws or forces. If these laws and forces were equitably supplied, the watch would move with the exactitude of the heavenly bodies in their spheres. So of the human mechanism: supply it with all the physical conditions of health, and we should have no functional disorders to quibble about.

I am, therefore, for the reasons above suggested, strongly inclined to doubt the propriety of dividing diseases into organic and functional, merely because we are frequently unable to behold, with our imperfect means of investigation, changes of structure to which to refer them. In the present instance, then, I am led to look beyond the altered condition of the kidneys for the cause of disease. I go to the viscera—the stomach and bowels, and their co-laborers in the work of assimilation. But here I find no evidence of primary disease. All the organs of this system are, apparently, in a state of physical integrity not incompatible with perfect health. But there is irregularity

of function. The inner guard which stands sentry at the entrance of the very fountain of life has failed to perform its duty, and foreign matters have found their way into the circulatory fluid. Sugar, a natural enemy to the life-forces, has found its way into the mass of fluid that is sweeping with fearful speed through every ramification of the body, supplying this tissue with appropriate nutriment, and removing from that hurtful and pestiferous waste matters—these latter being presented to the various outlets of the body, and through their appropriate channels expelled therefrom. Thus it is that the sugar, surreptitiously, so to speak, introduced from without, a blood poison, upon reaching the kidneys, is permitted to escape; but in finding its way out through these organs, the foreign saccharine substance acts upon them as a powerful diuretic, and the consequence is, that the urine is poured forth in inordinate quantities, greatly diluted, and holding in solution the peculiar sweet substance known as diabetic sugar. It is proper here to state, that the chemical relations of the urine itself are not necessarily greatly varied from that of health, except in dilution, and the one foreign compound, diabetic sugar—glucose. I am aware that this statement may be called in question, but it is presumed to be mainly correct.

The sugar, therefore, in the urine is to be regarded as the result of a blood poison; and its introduction into that fluid—the blood—is to be attributed, not to primary disorder of the kidneys, nor yet of the stomach and bowels, but of the nerves of organic life which supply the chylopoietic viscera. And we are not to look to the extremities of these nerves for the source of the trouble, but we are to go to the source of the nerves themselves—the brain—to find it.

Thus, I shall contend that diabetes is neurotic in its nature, and that its primary seat is to be sought for in the brain, and that therapeutical agents used in its remedial management should be addressed, at least in part, to the primary lesion.

Now then, I shall proceed to offer a few remarks in support of the neurotic origin of diabetes, and I beg leave to say, that if I produce but one proof, plain, clear and indisputable, I think the argument will be entitled to respect at least, since such a

proof has, so far as I know, never been furnished the profession by any of the numerous theories in popular vogue.

"M. Bernard found," says Dr. Wood, "that by irritating the the olivary bodies of the medula oblongata, he could at any time increase the production of sugar, and cause its appearance in the urine." That is, by the irritation of these bodies the digestive process is so far removed from the control of the vital laws, as to permit the supremacy of the chemical laws, and in this manner allow the starch, etc., contained in the food, to undergo transformation into sugar, and the result of this transformation, being absorbed into the blood, is expelled unchanged along with the urine.

Again, Dr. Prout remarks, that "so far as his experience goes, carbuncle is always accompanied by diabetes." May not, let me ask the question, carbuncle frequently produce irritation of the medullary bodies in question? Indeed, we know that carbuncles, located on the superior portions of the body, not unfrequently destroy life by cerebral disease. And I therefore infer that carbuncle, so commonly met with in diabetic patients, should be, in some instances at least, looked upon as a cause rather than a complication of the disease. But more to the point are the two following cases, the substance of which I extract from the June number of the *Medical News and Library:*

A woman, recently under the care of Dr. Todd, of King's College Hospital, after having received a severe injury of the head, became diabetic. She had hemiplegia, rigidity of the right arm, etc., and died. Dr. Goolden, says the same report, treated a case some years ago, in the course of which, the patient, a man who had received a very severe stroke upon the occiput, became diabetic.

Now, the evidence just offered establishes very clearly to my mind, at least, the cerebral origin of diabetes. It might, indeed, be very difficult to point out the exact pathological nature of the affection; but we are by no means to be astonished at this. We know that epilepsy, catalepsy, chorea, hysteria, etc., are nervous disorders, but no one has, I believe, furnished the profession with the special pathology of either of these affections; and the same may be said of several other neurotic affections. In

certain forms of paralysis, for example, the exact or special pathology is not well understood. In the white softening of the brain it is inferred, I believe, that there is loss of substance, an atrophy; and this inference is strengthened from the fact that patients laboring under the affection are frequently restored to health by a tonic plan of treatment. The organ is put upon a better regimen, a nutrition richer in the elements of its growth, and as its bulk is increased, the manifestations of disease are, so to speak, pushed aside. So of chorea; sulphate of zinc cures certain cases of chorea by somehow aiding the nutritive process concerned in supplying the nervous wastes.

For the purpose of illustrating the present subject more fully, especially in a practical point of view, I will here introduce the substantial history of a single case, not attempting to descend to minutiæ.

On the 6th of April last, I was requested to examine Mrs. K., a lady about sixty years of age. I had occasionally seen her before, and was now somewhat surprised to see her so thin and shrunken in appearance. I remembered her only as a plump, plethoric, hearty-looking old lady, who would probably have weighed 160 pounds. Her appearance was now that of a person who had been reduced to death's-door by starvation. The surface of the body was dry and shrunken, the adipose matter gone, and the muscles greatly attenuated. Her manner was unsteady, hurried and agitated. The pulse was not much unnatural, perhaps rather small and hard. She was free from cough, and suffered no acute pain; even those neuralgic pains, so commonly complained of in the left side of certain females, and from which this old lady had suffered more or less for many years past, had given her no uneasiness for two or three months. Her mouth was dry and the tongue covered with a white coating, and the bowels were constipated. She had great thirst—insatiable and voracious appetite, which she could find no means of satisfying. And for two or three months she had passed, according to her own statement, from one to two gallons of a pale straw-colored sixy urine every twenty-four hours, and daily emaciation had been going slowly on during

the whole time. She had had but little treatment, and that without any permanent advantage to her.

This was a case, as I then inferred, and I imagine correctly, of diabetes mellitus. Not having the necessary means of testing the urine by chemical reagents, I put a couple of ounces in a vial and added to it a small quantity of well fermented yeast, and in the course of a few hours the whole was in an active state of vinous fermentation—a circumstance indicating beyond the possibility of reasonable doubt the presence of sugar.

She was advised to eat nothing containing sugar, and to avoid, as far as possible, as articles of diet, those substances containing starch. Meat, eggs, milk, butter, cheese, and the leguminous garden vegetables, were recommended for food, with small quantities of stale bread. She was also advised to take creosote and opium three times daily, and a powder of sulph. cinchonia and carb. ferri about the middle of the fore and afternoon each day. She was also allowed as much brandy as she might desire, and her bowels were to be regulated by stimulating enemata.

Under this management the old lady was more comfortable, and the quantity of urine was perceptibly diminished. But after being kept upon the treatment a good many days, I was satisfied that the emaciation was not arrested, nor were the physical appearances of the urine at all altered for the better. About this time she was put upon an infusion of rennet, I having obtained the knowledge of its reputed virtues in this class of cases from our distinguished friend and the friend of science, D. Hutchinson, M.D., ex-president of this society. But although used for a considerable length of time, was unable to perceive that the patient derived any benefit from its employment; besides, the solution was exceedingly offensive to her.

At this time, after the old lady had been under treatment about five weeks, her condition was apparently hopeless; she was growing thinner and more feeble daily, though her appetite remained still morbidly good. Her skin and mouth remained dry, and she was agitated by nervous tremors. I now as a last and almost forlorn hope resolved to put her upon the following prescription:

℞ Pulv. ipecac., ʒ i.
Nit. argent.,
Pulv. opii, each, grs. xv.

Mix, and form into sixty pills; one to be taken three times a day, one hour before eating.

Under the employment of this prescription the patient was better on the second day, and very manifestly so on the fourth. In one week the quantity of urine was diminished very nearly within normal limits, and its physical *appearance* was that of healthy urine. The mouth was moist and the thirst very moderate, the skin was covered with a healthy, warm perspiration, and the appetite had lost its insatiableness, and now to use the old lady's own words, "she could quit eating." Her bowels seldom required the syringe any more.

She was kept upon this treatment, without material variation, for about four weeks, when, so far as the diabetic disease was concerned, an apparent cure, at least, had been effected, and the prescription was discarded. Up to the present writing there has been no return of the original disease, the patient being now able to go abroad, and she has evidently gained considerable flesh. She is using an ordinary mixed diet.

It is proper to state here, that from the first of my seeing the patient in question up to the present time, she has suffered more or less from what seemed to be a simple conjunctivitis. Whether it has any pathological connection with the diabetes is entirely problematical. The eye—the right one only—is still inflamed; and because it was rebellious to treatment, and I had not the power to force it into obedience, the patient became *impatient*, and Dr. B., a quack of the eclectic school, and who had, during almost my entire intercourse with the case, been interfering, was called in. But with the original ailment he has had, nor will he be permitted, I presume, to have anything to do.

Now here is a case of diabetes—mellitus, I suppose—which has been cured, apparently at least, and I have given you the general plan of treatment that was adopted. And here I must not forget to advert to the curability of the disease, as I sometime ago promised to do so. The older writers claim to have

cured the disease frequently; but it is to be presumed that many of their cases were not saccharine diabetes, but a sort of vicarious disease. Eberle, a very sagacious physician, says he cured but one case out of six that came under care; and Watson, I believe, supposes the disease to be incurable. But if, as I have supposed, the disease is neurotic in its nature, it must be apparent that it is an affection which may occasionally admit of cure. And, indeed, cures may sometimes take place spontaneously; for if by any means the peculiar irritability of the medula oblongata, upon which it is believed to depend, should be removed, the urine would lose its morbid character, and the patient would recover, provided the system had not been too much depressed to admit of recuperation. How often, for example, do spontaneous cures of epilepsy occur? We have probably all witnessed instances of this kind. So of chorea, and so, also, of paralysis, especially of that variety dependent upon atrophy of the brain.

But why did I employ the nit. of silver in the treatment of the case, brief notes of which I have just read? I might assign several reasons for prescribing the salt of silver. First, I prescribed it because I lacked confidence in any known mode of treatment. Secondly, because, should the essential nature of the disease be an obscure chronic inflammation of the mucous tissue of the stomach and bowels, as many physicians seem to believe, I knew of no remedy better calculated to restore these tissues to a healthy condition than the nit. of silver. Thirdly, if the disease is neurotic, as I have contended it is, then perhaps no agent in the whole catalogue of remedies would seem to promise more good results than this one. Its undoubted efficacy in several forms of nervous disease is well known. Epilepsy, catalepsy and chorea have, it is believed, frequently yielded to the powers of this remedy. But how does nitrate of silver operate in curing certain chronic nervous affections? The only satisfactory answer which I am able to give is that the medicine, as experimentally established, sometimes cures the affections named—and what cured a given case will cure another identically similar case similarly circumstanced. The nitrate of silver is claimed to be tonic, alterative, astringent, etc. It

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informed us, in a conversation upon this subject, a few days since, that he thinks there is no such disease as milk-sickness, "*sui generis*," but that it is merely a peculiar set of symptoms produced in some seasons more than others, and attending our ordinary bilious fevers, so called.

The Dr. says he has seen very many cases that were called milk-sickness, where all the morbid appearances so commonly described, were seen; and that after the extreme irritability of the stomach was allayed, the patient would subsequently continue in the condition we find in ordinary miasmatic fevers. From the fact that the usual remedies employed in allaying vomiting and obviating constipation are mentioned as most successful in this disease, there certainly is some reason to conclude that it is merely a peculiar modification of our miasmatic affections, where the cause is so intense as to affect even the brute animals.

We leave the subject with the hope that others in the future may continue to watch its phenomena and discover its true primary cause.

The eighth question in our circular is in reference to cholera infantum. Little or nothing has been received in regard to the disease, and we infer that its prevalence has been limited within the last year.

This disease has prevailed more or less in Joliet for the last four years, and in a form of morbid action that should deeply interest all of us. As its name implies, it is a disease of infancy. It occurs at a time of life when it is extremely difficult to cure any severe form of disease. It occurs, too, during a season of the year when bowel affections are more common in persons of all ages. It is liable to occur among the members of our own households, and of those of our friends most intimate.

We might, with propriety, add to the term cholera infantum that of *Americana*, for it seems to be confined to our country, and principally in cities. For this reason, too, should the American physician feel interested in investigating it. It is not our design to write a dissertation upon this subject, but to present some important considerations, both in diagnosis and treatment, as well as preventive.

It is frequently confounded with ordinary diarrhœa. There are some marks by which it may be distinguished. In the first place, vomiting is almost unfailing at an early stage, and a peculiar sunken appearance, with a deep leaden hue to the face. There is, secondly, great depression of the vital energies very soon after the attack, requiring stimulants and other means to excite action. Thirdly, a peculiar forcible expulsion of the contents of the bowels, as if thrown from a syringe, and a very sickening odor attending the secretions. Other distinguishing features might also be mentioned.

We find cases of cholera infantum most frequent in unhealthy localities, and apartments occupied by too great a number of individuals. The child derives its sustenance from the breast of a mother who also is breathing a vitiated atmosphere, and in most cases has but a limited supply of proper nourishment.

But occasionally we find severe cases of this affection in a family residing in a healthy place, with all necessary appliances of health as to air and food; only the general predisposition exerts an influence in the latter instance.

There is one point which we wish to introduce here in reference to the treatment of this disease which has already been alluded to in our remarks upon dysentery, viz: the avoiding of cathartics and other reducing agents. The judicious use of alteratives, anodynes and tonics, will insure the greatest success in its management. To control the excessive irritability of the stomach, which generally obtains before the physician is called, we have found great benefit from the use of cold to the pit of the stomach and the abdominal region, and allowing the child to take small pieces of ice into the mouth, while warm stimulating applications are made to the extremities. Enemata of cold water alone, or with tr. opii and tannic acid, will frequently control the alvine discharges. As soon as the vomiting is allayed so as to retain medicine upon the stomach, minute doses of some mercurial (if an alterative is indicated), with opii or Dover's powders and sul. quinia, should be administered. The powders are best retained by being placed upon the tongue, to be swallowed with the saliva or washed down by allowing the child to take the breast immediately. The sight of a spoon is

to many children most horrid, and it is very desirable not to excite the little patient's opposition if possible. If local inflammation in the stomach can be allayed, the careful use of tonics, with stimulants, such as brandy punch, carb. ammonia, are productive of great benefit. This course must be persevered in with energy, so as to keep up the strength. Most fatal cases result from mere exhaustion of the vital energies.

From the fact that the subjects of the disease in question are most commonly those that are nursing, it would naturally be expected that the condition of the mother greatly modified its character. It is frequently found that a child is laboring under a severe bowel affection while the parent is troubled with constipation. If she takes a cathartic, its influence is sooner manifest upon the infant than herself. Attention directed to her health will soon be favorably appreciated in the object of her care.

If it is true, then, that the effects of a cathartic given to the nurse will be seen in the infant, for the same reason will benefit be derived from the use of tonics and all invigorating agents, either medicinal or dietetic. The state of the mother's mind greatly influences the child, especially in a disease attended with exhaustion. Excessive grief will impair the appetite and prevent sleep. From day to day the child is taking nourishment which has its source by causes above mentioned.

The little sufferer has learned that the breast is the great panacea of all its woes, and frequent appeals in that direction are made. Immediate vomiting may result. An empty stomach still calls for more, and as the secretion is diminished in quantity, and at the same time the strength failing, the exertion necessary to draw the milk tends to increase the exhaustion without much benefit being derived.

The following instance will illustrate the influence of mental causes upon the infant. In the autumn of 1854, a lady called to see an intimate friend who was dying. One of the family had already died of cholera, and new cases were constantly occurring. The mental agitation, together with grief at seeing an intimate friend upon her death-bed, entirely overcame her. She went home and retired. She had a child about a year old,

which was at this time perfectly well. He nursed soon after her return, and was taken with severe vomiting and purging in a short time, so as to create alarm.

We were called, and found no evidence of functional derangement. The cause was so apparent that nothing was given, and in a few hours all morbid symptoms subsided. Before night the next day he was as well as ever.

If it is apparent that a child is influenced to any degree by these causes, it must be weaned immediately; and no one can treat diseases of children successfully unless these considerations receive due attention. These hints are thus presented to call the attention of the profession to the observance of such facts.

Too little attention is devoted to the diseases of children. Mothers are apt to think nothing can be done by medicine, and too many medical men are in the habit of saying, "It is but little use to doctor children, and we will leave it to the old women." Such teachings are false, and no one should shun an opportunity to attempt the cure of a child when laboring under disease.

The action of remedies is marked in the case of infants, and the comparative difficulty of diagnosis in their diseases is more than met in their freedom from the whims and prejudices of older persons.

Dr. J. O. Harris, of Ottawa, has kindly furnished the following meteorological record, which accompanies his reply to our circular:

METEOROLOGICAL RECORD FOR 1857, KEPT AT OTTAWA, ILL., BY J. O. HARRIS, M. D. No. 50.

1857.	Max'm Temperature.	Min'm Temperature.	Max'm Mean Temp.	Min'm Mean Temp.	Monthly Mean Temp.	No. Rain Storms.	Inches Rain.	No. Snow Storms.	Inches Snow.	DISEASES TREATED.
Jan....	39	16	32.	5.33	9.82	2	.460	3	9.50	Myelitis, Variola, Scarlatina, Colds.
Febr'y	56	4	48.	1.33	32.66	5	2.461	3	6.25	Phthisis, do. do. Pneumonia, Neuralgia, Remittent Fever.
March	62	7	47.	7.66	30.30	6	2.567	5	6.75	Delirium Tremens, do. Colds, do. Hepatitis, Myelitis, Remittent and Intermittent Fevers.
April..	80	16	52.	17.66	37.09	4	.641	7	7.75	Remittent and Intermittent Fevers, Variola, Colds, Pneumonia, Neuralgia.
May....	84	32	69.66	36.33	54.55	7	3.644			Remittent and Intermittent Fevers, Variola, Croup, Neuralgia, Rheumatism, Diarrhœa.
June..	87	44	76.66	53.33	66.66	6	3.949			Remittent and Intermittent Fever, Typhus Fever, Epilepsy, Hysteria, Rheumatism.
July...	93	58	85.	62.	76.27	6	3.970			Rem. and In. Fever, Typhus Fever, Diarrhœa.
Aug't.	91	52	82.86	60.66	67.96	10	6.104			Do. do. do.
Sept'r.	84	35	77.66	45.33	41.62	8	.891			Do. do. Peritonitis, do. Cancer.
Oct....	75	30	64.66	32.33	49.05	7	2.664			Do. do. Typhoid Fever, do. Colds.
Nov....	64	4	54.66	7.33	31.86	5	1.721	4	7.25	Do. do. do. Typhoid Pneumonia, Diarrhœa, Variola.
Dec....	64	17	46.	21.33	32.90	3	.843	4	2.75	Intermittent Fever, Epilepsy, Colds.
				Totals.....		70	29.941	26	40.25	

Annual Mean Temperature, 44.22°.

Dr. Harris writes: "The rate of mortality in typhus was about one in three cases; in what I call typhoid, one in four or five; pneumonia, not more than one in twenty-five. I have scarcely known of a death, within the last six years, from simple remittent or bilious fever, diarrhœa, etc. Scarlatina was quite mild, and I heard of no deaths from that disease. I heard or knew of no *cases* of phthisis."

The Doctor states, in reference to typhoid fever, that he has not seen more than four cases of what he calls genuine typhoid fever in six years. He seems to be more particular in regard to calling our prevailing fevers by that name than many are, and it must be said that his frankness is commendable.

Dr. Harris further states: "It is true that towards the latter part of the season, say from September to January, our (what I call) bilious or remittent fever sometimes assumes a low form, and a few of the symptoms of typhoid fever are seen, such as the dark brown or black tongue, dry teeth and lips, with more or less sordes, and occasionally some stupor, delirium, or tympanites, possibly diarrhœa; but in my own practice, I have

seldom, if ever, failed to find, by rising early enough in the morning, a remission more or less perfect. I have failed to discover the rose spots, or any evidence of an affection of Peyer's glands, which Wood declares to be 'as characteristic of this disease as the pustular eruption is of variola;' and I have not failed, as a general thing, to find the fever gone in from five to fourteen days, when every one knows that twenty-one days is a very short *minimum* time for the duration of typhoid fever. And quinine has been my 'sheet anchor.' Day after day, sometimes for a week continuously, I have given from fifteen to twenty grains, in four or five grain doses, usually combined with opium or belladonna in some form; sometimes in solution (I prefer that form if my patients can retain it so), sometimes in pill, and sometimes in powder; but quinine, in some form they must have, and have taken it with a result that has pleased me and my patients,—whether the practice has been scientific or empirical. Of course, I have used other remedies as occasion requires, but I have employed them as the pilot does his helm, while I have been firing up below and getting up steam with quinine."

In reply to the query, What improvements have you to suggest? Dr. Harris remarks:

"None, except that I have heard oil of erigeron, in doses of gtt. v., every two minutes, recommended as certain to arrest promptly *past partum* uterine hæmorrhage." He has had no personal experience as to its virtues, and would like to hear the result where it has been tried.

STOMATITIS MATERNA.

Respecting this interesting and distressing affection, Dr. D. W. Stormont, of Grand View, Edgar Co., one of the Committee on Practical Medicine, writes:

"During the last four or five years I have occasionally met with stomatitis materna. It has never prevailed extensively or assumed an epidemic form here, nor have the cases generally been severe or unmanageable. The buccal symptoms have usually appeared within a few weeks after delivery; sometimes, however, during the last weeks of gestation. They are uniformly

preceded, for an indefinite period, by gastric derangements of various forms and intensity; as acid eructations, a burning in the stomach, spitting up or vomiting a sour fluid or undigested food, a sinking sensation or distension or tenderness at the epigastrium, depraved appetite, costiveness or diarrhœa, etc. After a while pyrosis becomes frequent, the fluid discharged from the stomach is hot or acrid, and there is a scalding sensation in the mouth and throat, which is aggravated by warm drinks. Now apthæ appear on the tongue and inside of the cheeks.

"It is unnecessary to pursue the symptoms farther, or to speculate on the pathology of the disease.

"*Treatment.*—The state of the bowels must be carefully attended to. If there is costiveness, castor oil or seidlitz powders may be administered. After they have been sufficiently acted upon, the pil. rhei. comp. is admirably adapted to keep them regular. If diarrhœa is troublesome, opiates or astringents must be used. A favorite combination with me is,

℞	Pulv. opii,	grs. vj.
	Tannin,	" x.
	Pulv. ipecac.,	" iv.

"M. Fiat. Pulveris. xij. One to be taken *pro re nata.*

"It is of primary importance to improve the digestion and increase assimilation. For this purpose a full dose of some preparation of iron may be given three or four times a day. I prefer the following in the order enumerated, viz: muriated tincture, iron by hydrogen, Vallet's mass, prec. carbonate. One of the following pills is ordered *immediately* after each meal:

℞	Pulv. rhei.,	ʒj.
	Pulv. ipecac.,	ʒj.
	Castile soap,	ƀj.

"Mix with water, and divide into ninety pills, rolling them in calcined magnesia. In passing, I will add that this is a most excellent combination in almost every form of that protean malady—dyspepsia. I am indebted to Dr. Steele for the recipe. The patient is enjoined to use such healthy, nourishing diet as the appetite may crave and the stomach will bear, being guided chiefly by the experience of each case as to the kind and

amount to be taken. What disagrees with one seems to be adapted to another. I depend but little on local applications; but a wash for the mouth and throat, of a solution of sulphate of zinc—fifteen or twenty grs. to the ounce of water—is sometimes soothing.

"It is necessary to continue these remedies for several days, or perhaps weeks, after the more obvious symptoms have disappeared, or the disease will return.

"I have seen a development of this disease prevented by a timely relief of the dyspeptic symptoms by the means here detailed. What cases I have seen were in 'miasmatic districts,' and would lead to the inference that the effect of marsh miasm on the general system favors the development of this disease, by the digestive debility and anemia it produces, at a time when inordinate and peculiar demands are made on the blood for the growth of the fœtus or the supply of the lacteal secretion. I have seen nothing 'similar to it in infants or in men.'"

Dr. O. W. Newell, of Plano, Kendall Co., mentions four cases; of one he speaks as follows:

"The first was in July, 1857. Mrs. M. had occasionally an ulcer in the mouth before confinement. It set in immediately after, and I found her, after four weeks, with high fever, no appetite, and no taste in the mouth. The mouth was one white ulcer back to the fauces, and had also extended into the stomach.

"I commenced my treatment by giving iod. potass, in five grain doses, three times a day, and using a saturated solution of the same for a week. Kept the bowels open with cit. magnesia. Saw an amelioration of the symptoms in forty-eight hours, the ulcers assumed a more healthy appearance, the violent pain in throat and stomach ceased. In four days I diminished the dose to grs. ij., and in eight days to gr. j. In sixteen days discharged well. The treatment of the other cases since was similar, and successful in every case.

"I have noticed the disease in infants, in two cases, where they took it from the nurse."

Of the topography of his district, Dr. Newell says, "I am in Kendall Co., between the two streams, Big and Little Rock Creeks. No marshes; no miasmatic influence of a special nature

around us. The streams are both swift, and Big Rock now freezes in the winter, and but few streams running into them. As for the cause, it cannot be miasmatic."

Dr. A. J. Crain, of Homer, Champaign Co., also one of the Committee on Practical Medicine, writes the following interesting remarks on stomatitis materna:

"The object of this hasty and imperfect report is to notice a few of the more important characteristics of the above disease, as it prevailed in the practice of the writer during the summer and autumn of 1856, in McLean Co., Illinois; and, although many facts to which I shall refer are directly contrary to the experience of many whose observations have been much more extensive than mine, and whose opinions are entitled to the highest respect, yet they are facts, *and as such*, they are respectfully submitted.

"*First.* The disease prevailed as an epidemic. I do not think there was one lady out of ten who became pregnant during the spring of 1856, but what suffered in some degree during pregnancy or lactation. In most cases, the disease commenced early in pregnancy, and unless arrested, continued with a gradual increase in all the symptoms during gestation and the early months of lactation. The second peculiar characteristic noticed was, that a disease exactly similar in its symptoms and progress occurred in several infants, whose mothers had suffered from the disease during pregnancy.

"In the first case of infantile stomatitis, the infant's mouth presented every symptom of the disease; and what was more remarkable, the anus and lower part of the rectum were excoriated and dotted over with numerous points of ulceration, indicating that the disease had passed through the entire alimentary tract, as in the adult. I examined the infant a few moments after birth, as closely as my powers of observation would admit, and could perceive no difference between the affection as it appeared in the infant and in the mother. This child lived several months. Its mouth got well, but the diarrhœa continued, and it eventually sank under the influence of the disease of the stomach and bowels.

"In the second case, the disease was also intra-uterine in its

origin; but the infant had evidently been affected but a short time previous to birth. The stomatitis became more severe in a short time, however, and extended rapidly to the throat, stomach and bowels, producing great difficulty in deglutition, obstinate vomiting and wasting diarrhœa. In a short time deglutition became so difficult, that it was almost impossible to prevail on the little sufferer to swallow even a sup of water. Treatment had but little influence over the disease. The child died when about two weeks old.

"In the third case, the mother had suffered with stomatitis, at intervals, from the third month of utero-gestation. The infant seemed quite well at birth. But three days afterwards it was attacked; and, as in the others, the disease extended rapidly through the whole alimentary tube, and the infant sank gradually under the exhausting influence of the disease.

"The next characteristic noticed during the epidemic was, that the force of the disease was not invariably concentrated upon the mucous membranes, but frequently extended to the deeper-seated tissues. In the first case which proved fatal in my practice, the disease made its appearance during the second month of gestation. I did not see her till the ninth month. At the time of my first visit, I noted the following symptoms:

"A scalding, burning sensation in the mouth, fauces and œsophagus—mastication and deglution extremely painful—a copious discharge of hot, burning saliva. In various parts of the mouth and fauces were to be seen a number of small painful tumors, with hard elevated borders, and surrounded by a circle of inflammation. She had a dull burning pain in the stomach, with frequent vomiting, extreme tenderness in the epigastric region, and a wasting diarrhœa.

"She improved somewhat under treatment, but was attacked on the second day after confinement with acute gastritis, and expired forty-eight hours afterward, perforation of the stomach taking place a few hours after death.

"The next fatal case was that of Mrs. N., pregnant with her second child. She had suffered with stomatitis during her first lactation, and had never enjoyed entire immunity from the disease since it first appeared. The disease had already invaded

the stomach and bowels, as was clearly evinced by the symptoms. She gradually improved under treatment, appearing at times almost well; but she suffered frequent relapses till she was confined. A few days after her accouchment she was attacked with all the symptoms of gastro-enteritis, which proved rapidly fatal, perforation of the bowels taking place about twelve hours before death.

"Now, in both of the cases just cited, it is evident that perforation was preceded by ulceration of the mucous and muscular coats of the alimentary tube.

"From the above facts we deduce the following conclusions:

"*First*, That the nomenclature of this disease in not correct, since the disease, in the most marked form, has occurred in infants. Now I am well aware that the children of females who suffer from this disease are generally large, and what might be called well nourished; and I presume that there are many who will be more strongly inclined to doubt the correctness of my diagnosis than to suppose those were well marked cases of infantile stomatitis. In reply to those, I would simply state, that in every case above referred to, the symptoms were quite as well worked as in the adult, and in every essential character the resemblance was complete.

"The second important inference is, that while gestation and lactation, by the drain which they establish, are powerful predisposing causes of stomatitis materna, yet they are not, as has been supposed, the *sine qua non* to its existence; but that any cause which tends to impoverish the blood, and to obstruct the digestive and assimilative processes, may predispose the system to the disease in question.

"*Third*, That while the disease in most cases spends its chief force upon the mucous tissues, still it does not unfrequently implicate the serous and muscular coats of the stomach and bowels, closing the scene by gastric or intestinal perforation. Indeed, there is hardly a tissue or organ which may not become affected during the progress of the disease. Prof. Byford says that he saw a case where permanent deafness of one ear and exfoliation of bone from the mastoid process occurred. Prof. Brainard has seen cases in which there was ulceration of the vagina.

"We would be pleased, did time and space permit, to allude briefly to the pathology of this disease; but as circumstances require brevity, we pass to the consideration of the treatment.

"In this there are two prominent indications—first, to correct the derangement of the digestive organs; second, to restore a healthy quality of blood, and to invigorate the various functions.

"For the fulfilment of the first indication, we are possessed of a variety of means. As we generally find an acid condition of the stomach, and of the salivary and urinary secretions, ant. acids are very necessary, of which the best is b. c. soda or liquor calcis. Alkalies answer the twofold purpose of correcting the acid condition of the stomach, and at the same time neutralizing the acid state of the urine and saliva.

"When there is a strong tendency to the secretion of acid in the stomach, with profuse diarrhœa, the vegetable and mineral astringents will do good service, the best of which are logwood and sub-nitrate of bismuth.

"Dr. Hutchinson, of Ohio, has found the bismuth an excellent remedy, not only in controling the diarrhœa, etc., but also in improving the digestive powers of the stomach; and Dr. W. M. Chambers, of Charleston, relies upon it as the sheet-anchor in the treatment of this disease.

"To meet the second indication, I have found nothing superior to the vegetable and mineral tonics. I have usually prescribed a combination of the extract of gentian, sul. iron and sul. quinine. Professors Evans and Byford, of Chicago, both speak in terms of confidence in relation to the curative properties of c. l. oil in this affection. In regard to local appliances, the influence must of necessity be only temporary; yet I have derived decided temporary relief from the application of the following mixture:

℞ Tinc. sanguinaria Canadensis,
Aqua destillata, aa, 1 oz.
Sul. zinci, 30 grs.

"With regard to the diet; in the early stages it should be mild, yet nutritious. But from the first, all acid fruits and vegetables should be avoided. In the advanced stages, when the blood becomes impoverished when it has been drained of its corpuscles, of its albumen, and of the solids generally, and

when the system is being rapidly exhausted under the wasting influence of the disease, I have derived great benefit from the more concentrated forms of animal food, and, especially, a diet containing a large amount of albumen, such as eggs, milk, etc. Indeed, I have invariably, through the progress of the disease, recommended an albuminous diet, as I have generally found the blood deficient in albumen from the outset.

"There are many other points connected with this interesting and obscure affection which I would like to notice, but I must postpone their consideration till another opportunity is afforded.

"A. JACKSON CRAIN.

"HOMER, Champaign Co., Ill.,
"April 1st, 1858."

The foregoing articles upon the subject of stomatitis materna, give faithful details of the symptoms ordinarily met with in that affection. Your chairman would beg leave to add some observations in this connection:

First, as to its miasmatic origin. It cannot be said to be strictly of that character, for it is met with in all places, east or west, and in different altitudes and latitudes. It is very evident that the disease is one resulting from a failure in the assimilative process. Occurring chiefly at a time when the mother is called upon to sustain the new being both before and after birth, it is conclusive that it is owing to a want of ability to perform the double responsibility. It is a law of nature in animal life, that all other interests are sacrificed to the good of the one just ready to be brought into the world.

The fœtus in utero must be nourished, even at the expense of her who is called upon to sustain it.

It is well known that all causes that produce exhaustion of the nutritive process affect, in a prominent manner, the mucous membranes. This we see in various other diseases, among which may be named phthisis pulmonalis, where apthæ and colliquative diarrhœa result.

The same is true in the case of the mother after confinement, when the infant is to receive its nourishment from the milk, which is about as direct from the blood as was the nutriment

before birth. If the mother secretes healthy milk, a great proportion of the food she digests goes directly to the mammary glands; and if she can furnish enough for herself and her child, without feeling any effects, she of course does not have nursing sore-mouth.

But just in proportion as the child takes her capital stock, so she suffers.

It follows, then, that one of two things must be done in this disease:

1*st*, So act upon the maternal organism by our efforts, as to enable her to sustain both herself and child, or to take the child from the breast and nourish it in some other way.

No mention is made by any of those whose observations are embodied in this report, whether it was necessary to wean the infant. That is the great desideratum; for if we abstract the child from the breast as soon as the mouth becomes sore, recovery will in most cases result without any medication. Your chairman has seen cases frequently, where all the symptoms seen in the mother were witnessed in the child.

These cases appear to occur when the system of the nurse fails to secrete milk of a quality such as will nourish a child. Again, we have seen cases in which the child's mouth became sore from the nipple being in a condition similar to that of the mouth. Great care is requisite that ulcerations of the nipple should be cured on this account, as well as for the comfort of the mother.

Nitrate of silver, internally administered, has, in some cases, been followed with good effects in this disease, to correct the condition of the bowels and stop diarrhœa. As intimated elsewhere in this report, glycerine, with iod. potass and iod. ferri, is confidently recommended, together with brandy or wine, as may best suit, with eggs beat up in it, as a part of the diet. Porter, or lager beer, are excellent, taken as freely as the stomach or brain will admit.

Inasmuch as liquids of all kinds are not well borne, concentrated animal broths, or oyster soup, will serve both as drink and food. A woman suffering from sore-mouth, will, unless strict attention is paid, neglect to take nourishment, both on

account of its being painful to eat and want of appetite. For this reason food must be rigidly insisted upon, as well as medicine.

The earlier a woman begins to feel symptoms of this disease, either in gestation or lactation, the more solicitude should be felt in the prompt treatment of the case. We frequently find cases where the mouth will not begin to be sore until the child is some months old. In such cases it is advisable to wean it, unless we are satisfied that remedies are having pretty immediate effects.

It will also be found, in many cases, that the secretion of milk will be morbidly copious, amounting to galactirrhœa; much more milk is furnished than is needful for the infant, and consequently an unnecessary drain is made upon the mother's strength. We have, in such cases, advised the temporary weaning of the child. We say temporary, for it is well known that the secretion from the mammary glands may be restored after being partially or wholly suspended.

A case, now under our treatment, became at one time so severe as to demand the weaning of the child. The milk was very abundant, and the child, although some eight months old, could not take more than half. The mother, notwithstanding the use of tonics and stimulants, continued to lose strength. The infant was taken from the breast, and in less than ten days the milk had nearly ceased. The mother in the meantime had improved so much (and the child showed signs of suffering from the change), that it was again allowed to resume its former nutriment. In order to lessen, if possible, the lacteal secretion at the time of weaning, the following was applied to the breast once or twice daily:

℞	Atropia,	gr. j.
	Aqua distill.,	ʒiij.
	Acetic acid,	min. ij.

After the child commenced taking the breast the milk was not so abundant as before, and at present (May 20th), the mother is improving, but takes, daily, beer, and uses the lotion of atropia.

Dr. Hiram Nance, of Lafayette, writes: "In answer to ques-

tion No. 1, I would say, as I have formerly answered, that sub-remittents and remittents prevail most in summer and autumn, and diseases of the respiratory organs during the winter and spring. I consider it unnecessary to give the causes of these diseases, as they are pretty much settled in the minds of all medical men. The symptoms have not varied materially from what are usual in our miasmatic diseases; the type has been mild and easily controled. A mild cathartic of prot. chlo. hydrarg., combined with pulv. rhei., and followed with quinine in the intermission, or, in place of quinine, sul. cinchonia would, in a few days, remove the disease. It was rarely found necessary to repeat the mercurial. The congestive or pernicious type of intermittents has not prevailed in this part of the country for several years. Our miasmatic diseases are growing less, and fevers are assuming more of a continued type, and leaving off the well-marked periodicity which so well characterized them a few years ago. So mild have been our intermittents and remittents, that I have not known a fatal case during the year.

"I think I have seen less pneumonia during the winter and spring than usual. Some cases proved tedious, resulting in *chronic* pneumonia. The cases that took this turn were those of inflammation of the base of the left lung, connected with pleuritis and bronchitis. I have not bled a patient during the winter or spring suffering under diseases of the respiratory organs. Have treated them with tart. antimony, combined with tr. opii, every two hours, and if the tongue was furred with a yellowish coat, gave a mild mercurial alterative once or twice a day. When the pulse became full and quick, respiration short, and dyspnœa very great, I suspended the tart. antimony and tr. opii, and relied pretty much upon Norwood's tr. veratrum viride. I must say that I have more confidence in it, in the treatment of such types of respiratory diseases, than I have in the vaunted remedy, tartar emetic. I visit my patient to-day and find him with a pulse full and numbering from 120 to 130, respiration quick, cough almost constant. I place him on from five to eight drops of tr. veratrum viride every three hours. On the morrow I see him again; how great the change; pulse down to 70 or 80, respiration free, and cough less annoying.

(To be continued.)

[Concluded from page 644.]

surely possesses tonic properties, and upon inflamed surfaces it appears to exert a decidedly sedative influence; and, indeed, I am inclined to attribute the curative effects which sometimes follow its administration in nervous disorders to its permanent sedative properties. It quiets nervous irritability, and thus allows a more healthy nutrition to take place. Opium, under certain circumstances, seems to act in this way. The case of diabetes which Eberle claims to have cured, was treated substantially upon opium, the whole nervous system having been kept tranquilized by this drug until nature, through the reparative process, overcame the organic disease upon which the affection depended. In my case the ipecac., it is believed, proved highly beneficial in restoring cutaneous transpiration.

And here, gentlemen, I will close, before doing which, however, I will state, that since commencing this dissertation, I have received the July No. of the *Medical News and Library*, in which I find an article to the effect that in hooping-cough the urine is always more or less saccharine. This statement is given on the authority of Dr. Gibb, and seems to have been confirmed by other observers. Now what is the condition of the brain in pertussis? It is evidently in a state of preternatural excitation, and there is strong presumption that the "olivary bodies" are involved in irritation, or perhaps even inflammation. Thus, the position that diabetes depends upon a lesion of the brain receives additional support.

NOTE.—In the course of the remarks which the reading of the above paper elicited, the President, Dr. Ritter, related the history of a case of diabetes which he had seen several years previously, in which there was a carious condition of the mastoid processes of the temporal bones. Whether the morbid condition of these bones depended upon disease of the base of the brain, or whether disease of the bones preceded the diabetes, he had no means of knowing. But he knew that the man, who was considerably advanced in life, had diabetes, and also suffered from a carious state of the temporal bones.

I would here render my acknowledgments to Dr. R. B. Denny, a young practitioner of unusually fine promise, for valuable assistance he afforded me in the preparation of this paper. W. M.

EDITORIAL.

CLOSE OF THE VOLUME.

The present number closes the first volume of the *Chicago Medical Journal*, and in it will be found a title page and full index. The only thing we have to regret, in looking over our work, is the fact that during the last four months we have been compelled to issue the Journal at the end instead of the beginning of each month. We shall soon be able to remedy this, however, and we have made such arrangements, both in regard to contributions and illustrations, as will secure to the forthcoming volume a higher degree of interest and value than any which has preceded it. This, with the increased size of each number, we hope will be sufficient to induce all our friends to promptly renew their subscriptions and to send us in addition many new names as subscribers.

PERSONAL.

Our very amiable cotemporary, the senior editor of the *Peninsular and Independent*, not satistfied with his recent attempt to correct our sense of propriety, seems just now much concerned about the *irascibility* of our *temper*. We are sorry to have occasioned him so much solicitude in our behalf,—but really dare not promise to do any better in future.

SUMMARY OF CLINICAL CASES PRESENTED TO THE MEDICAL CLASS ATTENDING THE MERCY HOSPITAL DURING THE MONTH OF NOVEMBER, 1856. BY E. O. F. ROLER.

The number of students attending the wards of the Mercy Hospital for clinical instruction, during the present session of Rush Medical College, is seventy-five. They are divided into two classes; one visiting the Hospital every Monday, Wednesday and Friday, and the other every Tuesday, Thursday and Saturday. The cases which have been fully, and in some instances repeatedly, presented to them during the clinic hours of the last month (November) are as follows:

1. Miss Ellen ——, aged twenty-one years, native of Ireland; has organic disease of the valves of the pulmonary artery with hypertrophy, and also signs of incipient tuberculosis of the apex of the right lung. The cardiac disease is the sequel of an attack of rheumatism three years since. The case is still under treatment.

2. Miss Kate ——, aged twenty years, native of Ireland; had well-marked typhoid fever. Discharged well.

3. Miss Mary ——, aged eighteen years, native of Germany; had a malignant pustule on the thumb. Discharged well.

4. Mrs. Mary ——, aged thirty-four, native of Ireland; had ascites, with an abdominal tumor extending from the left hypochondriac region down to the pubes, and from the concavity of the left ileum to the linea alba. After being under treatment four weeks she left the Hospital much improved.

5. Miss Ann ——, aged twenty-eight years; has chronic gastritis. Still under treatment.

6. Mrs. S. ——, aged forty-seven years, native of Ireland; had scirrhus of the pylorus, accompanied by extreme emaciation and inability to retain either food or medicine without extreme distress. Died.

7. Mrs. Mary ——, aged eighty-two years, native of Ireland; has extensive chronic bronchitis, with much emaciation, and copious purulent expectoration. Still under treatment.

8. Mrs. L. ——, aged forty-five years, native of Germany; had uterine hemorrhage. Recovered.

9. Miss Bridget ——, aged twenty-two years; had menorrhagia. Recovered.

10. Mrs. Bridget ——, aged twenty-three years, native of Ireland; had tubercular phthisis, with extensive cavities, copious purulent expectoration, and extreme emaciation. Died.

11. Mrs. Alice ——, aged thirty years, native of Ireland; has incipient tuberculosis. Still under treatment.

12. Miss Ellie ——, aged seven years; had rubeola. Recovered.

13. Miss Mary ——, aged six years; had phagedenic ulcer on the inner surface of the right cheek, with anemia. Much improved, but still under treatment.

14. Mrs. C. ——, aged forty years, native of Germany; had pneumonia. Recovered.

15. James W., aged thirty-one years, native of Ireland; admitted with complete paraphlegia, accompanied by paralysis of the sphincters of the bladder and rectum, and extensive bed-sores over the sacrum and hips. Diagnosis—disorganization of the spinal cord from sub-acute inflammation, commencing three months since. Died about two weeks after admission.

16. Anton ——, a German, aged thirty-five years; had typhoid pneumonia. Recovered.

17. Timothy C——, native of Ireland, aged thirty-eight years; had simple intermittent fever. Recovered.

18. James Mc——, native of Ireland, aged twenty-seven years; had acute conjunctivitis. Recovered.

19. Dennis H——, native of Ireland, aged thirty-two years; had pernicious intermittent, with symptoms strongly marked. Recovered.

20. Barney D——, aged twenty-six years; had typhoid fever. Recovered.

21. J. McM——, native of Ireland, aged forty-six years; had tubercular phthisis in the third stage of advancement. Still under treatment.

22. Peter ——, native of Germany, aged fifteen years; had scarlatina anginosa. Recovered.

23. John ——, aged twenty-nine years; had tubercular phthisis—its last stage. Died.

24. Moretz ——, a native of Germany, aged thirty years; had tubercular phthisis in its last stage. Died.

25. Antony D——, aged twenty-six years; had chronic bronchitis. Left the Hospital much improved.

26. John ——, a native of Germany, aged sixty-three years; had sub-acute laryngitis. Recovered.

27. Eugene ——, native of France, aged thirty-three years; had chronic dysentery with ascites. Still under treatment.

28. Charles B——, aged twenty-two years; had chronic dysentery. Discharged well.

29. James C——, native of Germany, aged twenty-one years; had complete paraphlegia, including partial paralysis

of the bladder and rectum. Attack was developed rapidly and without fever or any appreciable cause. Left the Hospital with recovery nearly complete.

30. Patrick ——, native of Ireland, aged thirty-seven years; had chronic conjunctivitis, with partial opacity of the cornea. Improved.

31. Edward B——, aged twenty-three years; had chronic bronchitis. Recovered.

32. James C——, aged seven years; had simple continued fever. Recovered.

33. James ——, aged eight years; had rubeola. Recovered.

34. Charles V——, aged four years; had impetigo. Recovered.

35. Patrick S——, aged eight years; had porrigo scutulata. Recovered.

36. John ——, aged seven years; had scrofulous swelling of the glands of the neck. Still under treatment.

37. Michael McG——, a native of Ireland, aged thirty-six yeors; had duodinitis with jaundice. Still under treatment.

38. David K——, aged twenty-three years; had typhoid fever. Recovered.

39. Karl B——, a German, aged thirty-one years; had eczema. Recovered.

40. James D——, aged eight years; had corneitis. Still under treatment.

During the daily clinics, whenever the cases under consideration presented cardiac or pectoral symptoms, each member of the class was required to practice auscultation, and examine the patient in such a manner as to acquire practical tact in diagnosis.

IN MEMORIAM.

At a meeting of the students of Rush Medical College, on Saturday evening, Jan. 1, 1859, a committee was appointed to express the sentiments of the class relative to the decease of Mr. James J. Kay, one of their number, who reported the following preamble and resolutions, which were unanimously adopted:

Inasmuch as it has pleased Him who disposes all events to remove from our midst by death Mr. James J. Kay, one of our fellow-students, and one who, by his integrity, gentlemanly deportment, kindness of heart, and unremitting diligence in the pursuit of knowledge, had won for himself the respect and esteem of all who knew him, therefore,

Resolved, That we sincerely mourn his loss, and deeply sympathize with his afflicted relatives in this hour of their inexpressible grief.

Resolved, That we tender to Mr. Atwater and family, and the room-mates of Mr. Kay, our thanks for their prompt, judicious and unceasing attention to the deceased during the whole of his illness.

Resolved, That a copy of the foregoing be sent to the parents of the deceased, to his preceptor, and to the daily papers of this city and the Freeport *Journal* and *Bulletin* for publication.

EXTRACTS.

[*From the Cincinnati Lancet and Observer.*]

TROUSSEAU'S OPINION OF TRACHEOTOMY.

Tracheotomy, well performed and badly treated, is invariably fatal; but badly performed and well treated, it succeeds in a third of the cases. The wound ought to be defended by plaster, in order to prevent its edges being injured by the borders of the canula. A woolen cravat ought to be passed three or four times loosely around the neck, so as to absorb the heat and moisture requisite for the air entering the lungs; otherwise, the mucus in the trachea dries up too rapidly, and so inflammation of it is excited. The edges of the wound ought to be cauterized, to prevent their taking on a diphtheritic covering; rub the caustic in well, the day after the operation at latest. Children operated on must be made to eat; insist on this. Despite the fever, prescribe milk, eggs, chocolate, cream, etc., as deglutition is very difficult with children; the best thing is to remove the canula as early as possible. In the angina of the diphtheritic, the canula may be removed on the sixth to the ninth day; but

sometimes it must be left for months or years. Blisters must never be used in diphtherite: they only add another complication.—*Med. Times and Gazette.*

DEATH FROM CHLOROFORM.

Dr. Robert Lee, of London, reports, in the *Med. Times and Gazette*, a case of death from chloroform, occurring in the practice of Dr. John Campbell, of Largs, in Scotland. The presentation was natural. The woman had taken chloroform in six previous labors without accident. The pains becoming active, she called for chloroform, and inhaled about ʒij., "threw herself violently back, gave a gasp or two, a slight gurgle was heard, and respiration and the pulse instantly ceased." Dr. Campbell arrived a few minutes after the death. Having no instrument, he did not deliver the child. The head rested on the perineum. It is only a few weeks since it was publicly denied that any case of death from chloroform, during labor, had ever occurred in Scotland.

A SPECIFIC FOR SCABIES.

At the last meeting of the Academy of Science, Paris, M. Bonnet, of Epinal, sent in a paper announcing that benzine is a specific for the itch. The author of the paper states that if benzine be rubbed on the parts affected, and also very slightly on the other parts of the body, a cure will be effected in the course of five minutes, after which the patient may take a warm bath for half an hour. Nevertheless, in cases where the itch is accompanied with secondary eruption, the latter will require a separate treatment.—*London Lancet.*

COLD APPLICATIONS AND SULPH. OF COPPER IN CROUP.

Dr. Pudon relates some cases as examples of the great benefit he has derived from the continuous application of cold, wet compresses to the neck, simultaneously with the administration of sulph. copper in two grain doses, every half hour; sixty-four grains having been given in one case, and seventy in another.—*Journal fur Kinder: Med. Times and Gazette.*

STRYCHNINE POISONING RELIEVED WITH CAMPHOR.

In the November, 1858, number of the *Ohio Med. and Surg. Journal*, Dr. Denig reports a case of poisoning by strychnine, which he treated with chloroform and pulv. camphor, the result being favorable. When called to see the patient she was in tetanic convulsions, and, as he satisfactorily ascertained, had taken, for purposes of self-destruction, about *one grain* of strychnine. Dr. D. administered five grs. pulv. camph. every ten minutes, administering chloroform in the meantime, for about half an hour, at the end of which time the spasms ceased to return.

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By the process of percolation, carefully conducted, the crude material is completely exhausted of its medicinal virtues, and these, by subsequent evaporation, at a low temperature, are retained in their full original activity, and in a form highly concentrated, and exceedingly convenient for prescription.

We would respectfully invite physicians to make trial of the above, feeling confident that they will be found entirely reliable.

To those who prefer Tilden & Co.'s Extracts, we would say that we keep the usual assortment of their Solid and Fluid Extracts, and offer them at their prices. SARGENT & ILSLEY, Druggists, 140 Lake-street, Chicago.

Extractum	Aconiti	Fluidum,	One fluid drachm is equal to	½	a drachm	of the	crude	material	
"	Asclepiadis Tuberosæ,	"	"	"	"	"	"	"	"	"
"	Buchu,	"	"	"	"	"	"	"	"	"
"	Belladonnæ,	"	"	"	"	"	"	"	"	"
"	Cinchonæ (Calisayæ),	"	"	"	"	"	"	"	"	"
"	Colombæ,	"	"	"	"	"	"	"	"	"
"	Conii,	"	"	"	"	"	"	"	"	"
"	Cimicifugæ,	"	"	"	"	1	"	"	"	"
"	Cubebæ, U. S.	"	"	"	"	"	ounce	"	"	
"	Ergotæ	"	"	"	"	2	scruples	"		
"	Galiæ,	"	"	"	"	½	a drachm	"		
"	Gentianæ,	"	"	"	"	1	"	"		
"	Hyoscyami,	"	"	"	"	½	"	"		
"	Lobeliæ,	"	"	"	"	½	"	"		
"	Opii,	"	"	"	"	about 5	grains	"		
"	Pareiræ Bravæ	"	"	"	"	½	a drachm	"	"	
"	Piperis Nig., U. S.,	"	"	"	"	2	ounces	"	"	"
"	Pruni Virg,	"	"	"	"	½	a drachm	"	"	"
"	Rhei, U. S.,	"	"	"	"	1	"	"	"	"
"	" et Sennæ,	"	"	"	"	45 grs. Senna 15 grs. Rhub.		"	"	"
"	Sanguinariæ	"	"	"	"	½	a drachm	"	"	"
"	Serpentariæ,	"	"	"	"	"	"	"	"	"
"	Scutellariæ,	"	"	"	"	"	"	"	"	"
"	Sarsaparillæ, U. S.,	"	"	"	"	1	"	"	"	"
"	Sennæ, U. S.,	"	"	"	"	"	"	"	"	"
"	" et Spigeliæ, U. S.,	"	"	"	"	30 grs. Pink-root, 15 grs. Senna,		"	"	"
"	Stillingiæ,	"	"	"	"	½	a drachm	"	"	"
"	Taraxaci,	"	"	"	"	1	"	"	"	"
"	Valerianæ, U.S.	"	"	"	"	½	"	"	"	"

Sargent & Ilsley's Solution of Chloride of Zinc,

For Purifying Sick Chambers, Sinks, Chamber Vessels, Vaults, Cellars, and for preserving Corpses, Preventing Moths, Exterminating Bugs, &c.

To obtain a substance harmless in itself, and free from smell, but possessed of the property of destroying all other smells, particularly such as are offensive or injurious to health, has long occupied the attention of scientific men. It has been found that Chloride of Zinc possesses this power in a high degree, and is also safe, economical and convenient.

It has received the sanction of the highest medical authority, and been very extensively introduced into the hospitals and public institutions of Europe and this country.

Our solution is of uniform strength, containing 35 per cent. of the dry chloride, and for most purposes should be diluted with twenty times its bulk of water. It is the cheapest, most effectual and convenient disinfectant known.

Its application is perfectly safe, both to persons and property; it is also free from the noxious and disagreeable odor of the chloride of lime, and the directions pertaining to the various disinfectants in common use. Full directions accompany each bottle.

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PORTOGOS are $3.50 per doz. or $20 per Hundred.

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Granules 1-50 of a grain each.

Aconitine.....in bulk
" .....Bottles of 100 Granules
Arsenious Acid.....in bulk
" .....Bottles of 100 Granules
Atropine .....in bulk
" .....Bottles of 100 Granules
Digitaline.....in bulk
" .....Bottles of 60 Granules
Morphine.....in bulk
" .....Bottles of 100 Granules
Strychnine.....in bulk
" .....Bottles of 100 Granules
Valerianate of Atropine.....in bulk
" .....Bottles of 100 Granules
Veratrine .....in bulk
" .....Bottles of 100 Granules

Granules 1-5 of a grain each.

Tartar Emetic.....in bulk
" .....Bottles of 100 Granules
Codeine.....in bulk
" .....Bottles of 50 granules
Conicine.....in bulk
" .....Bottles of 100 Granules
Extract of Belladonna.....in bulk
" " Bottles of 100 Granules
" and Powder of Belladonna.....in bulk
" " " Bottles of 100 Granules
" Hyoscyamus .....in bulk
" " Bottles of 100 Granules
" Ipecac.....in bulk
" " .....Bottles of 100 Granules
" Opium.....in bulk
" " .....Bottles of 100 Granules
Proto-Iodide of Mercury.....in bulk
" " Bottles of 100 Granules
Colchicum (each granule is equal to 2 drops of Tinc.).....in bulk
" " " Bot. of 100 Granules

DRAGEES.

Ext. of Ipecac, 3-50 gr. equal to ¼ grain pow .....in bulk
" " " Boxes of 100 Dragees
Carbonate of iron, Blaud's formula.....in bulk
" " Bottles of 120 Dragees
" " Vallet's formula .....in bulk
" " " Bot. of 120 Dragees
Carbonate of Manganese and Iron.....in bulk
" " " Bot. of 120 Dragees
Kermes, 1-5 grain.....in bulk
" " .....Boxes of 80 Dragees
Santonine, ¼ grain .....in bulk
" " .....Boxes of 40 Dragees
" " .....Boxes of 20 Dragees
Bi-Carbonate of Soda, 4 gr. each.....in bulk
" " Bottles of 130 Dragees
Magnesia and Rhuburb, 1 gr. of each....in bulk
" "Bottles of 130 Dragees

Dragees in bulk, come out in bottles of 500 each, unless ordered otherwise.

Dragees of U. S. P.

Aloes and Myrrh, 4 grains.....in bulk
Compound Cathartic, 3 grains..... "
Aloetic, 4 grains..... "
Assafœtida, 4 grains..... "
Aloes and Assafœtida, 4 grains..... "
Dinner Pills, Lady Webster's, 3 grains.. "
Comp. Calomel, Plummer's Pills, 3 grs. "
Blue Pills, 3 grains..... "
Opium Pills, 1 grain..... "
Calomel Pills, 2 grains..... "
Opium et Acet. Plumb, each 1 grain..... "
Extract of Rhatany, 1 grain..... "

Dragees of 1 grain each.

Quevenne's Iron, reduced by Hydrogen.in bulk
" " " Bottles of 100 Dragees
Conicine.....in bulk
Proto Iodide of Iron..... "
" " " .....Bottles of 100 dragees
Lactate of Iron.....in bulk
" " .....Boxes of 130 Dragees
Sulphate of Quinine.....in bulk
Valerianate of Quinine..... "

Dragees of 2 grains each.

Citrate of Iron.....in bulk
" " .....Bottles of 130 Dragees
Willow Charcoal.....in bulk
" " .....Bottles of 150 Dragees
Diascordium.....in bulk
" .....Bottles of 130 Dragees
Anderson's Anti-bilious and Purg. Pills.in bulk
" " " Boxes of 80 Dragees
Extract of Gentian.....in bulk
Iodine of Potassium..... "
Calcined Magnesia..... "
" " .....Boxes of 200 Dragees
Rhubarb.....in bulk
" .....Boxes of 100 Dragees
Ergot, powder cov'd with sugar as soon as pulverized.....in bulk
Phellandria Seed..... "
" " .....Bottles of 130 Dragees
Washed Sulphur.....in bulk
Sub-Nitrate of Bismuth..... "
" " ...Boxes of 200 Dragees
Tartrate of Potassa and Iron.....in bulk
" " " Bottles of 130 Dragees

Dragees of Copaiba, pure solidified.....in bulk
" " .....Bottles of 72 Dragees
" " and Cubebs.....in bulk
" " " Bottles of 72 Dragees
" " Cubebs & Cit. Iron.in bulk
" " " Bottles of 72 Dragees
" Cubebs, pure.....in bulk
" " .....Bottles of 72 Dragees
" " and Alum .....in bulk
" " " Bottles of 72 Dragees
" " Rhatany and Iron.....in bulk
" " " Bottles of 72 Dragees

These Pills are covered with a coating of sugar, and present great advantages in the quadruple point of view of the exactness of the weight of the medicines, of its perfect preservation, its convenient and agreeable administration, and above all, its greatly increased therapeutic action.

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Apocynin,	Apocynum Cannabinum,	2 00
Asclepin,	Asclepias Tuberosa,	1 50
Baptisin,	Baptisia Tinctoria,	1 00
Caulophyllin,	Caulophyllum Thalic.,	0 75
Cerasein,	Cerasus Virginiana,	1 50
Chelonin,	Chelone Glabra,	1 25
Cornin,	Cornus Florida,	1 00
Corydalin,	Corydalis Formosa,	4 00
Cypripedin.	Cypripedium Pubescens,	1 00
Digitalin,	Digitalis Purpurea,	1 50
Euonymin,	Euonymus Americanus,	1 50
Euphorbin,	Euphorbia Corolata,	1 50
Eupatorin, (Perfo.)	Eupatorium Perfolia,	1 00
Eupatorin, (Purpu.)	Eupatorium Purpureum,	1 50
Gelsemin,	Gelseminum Semper.,	2 00
Geranin,	Geranium Maculatum,	0 62
Helonin,	Helonias Dioica,	1 75
Hydrastin,	Hydrastis Canadensis,	1 25
Hyosciamin,	Hyosciamus Niger,	3 50
Irisin,	Iris Versicolor,	1 00
Jalapin,	Ipomœa Jalapa,	1 00
Juglandin,	Juglans Cinerea,	0 75
Leptandrin,	Leptandria Virginica,	0 75
Lupulin,	Humulus Lupulus,	1 00
Macrotin,	Macrotys Racemosa,	0 62
Menispermin,	Menispermum Canad.,	1 00
Myricin,	Myrica Cerifera,	0 62
Phytolaccin,	Phytolacca Decandra,	1 00
Podophyllin,	Podophyllum Peltatum,	0 75
Populin,	Populus Tremuloides,	0 50
Prunin,	Prunus Virginiana,	0 75
Rhusin,	Rhus Glabrum,	1 00

Powders.	*Obtained from*	*per oz.*
Rumin,	Rumex Crispus,	$0 75
Sanguinarin,	Sanguinaria Canadensis	0 75
Scutellarin,	Scutellaria Lateriflora,	1 50
Senecin,	Senecio Gracilis,	1 50
Stillingin,	Stillingia Sylvatica,	1 25
Strychnin,	Strychnos Nux Vomica,	3 00
Trilliin,	Trillium Pendulum,	1 00
Veratrin,	Veratrum Viride,	1 50
Viburin,	Viburnum Oxycoccus,	1 50

Concentrated Tinctures.		*per oz.*
Con. Tinc.	Apocynum Andro.	$1 00
" "	Chelone Glab.	0 50
" "	Digitalis Purp.	0 50
" "	Euonymus Amer.	0 50
" "	Eupatorium Purpu.	0 75
" "	Gossypium Herb.	1 00
" "	Rhus Glab.	0 50
" "	Scutelloria Later.	0 50
" "	Senecio Gracilis.	0 50
" "	Strychnos Nux Vomica.	1 00
" "	Xanthoxylum Frax.	0 62
Con. Comp.	Stillingia Alterstive,	1 00
Xanthoxylin Pills,		0 50
		per bot.
Con. Tinc.	Gelseminum Semp. 6 oz. bot.	1 00
" "	Veratrum Viride, 4 oz. bot.	0 75
Wine Tinc.	Lobelia Infl., 6 oz. bot.	0 50

Oils.	*per oz.*
Oil Lobelia,	1 50
" of Capsicum,	0 75
" " Erigeron,	0 50
" " Populous,	0 50
" " Stillingia,	1 00
" " Zanthoxylum,	0 75
Oleo-Resin of Lobelia,	0 75

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" 2.	24 "	6 00
" 3.	28 "	7 00

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